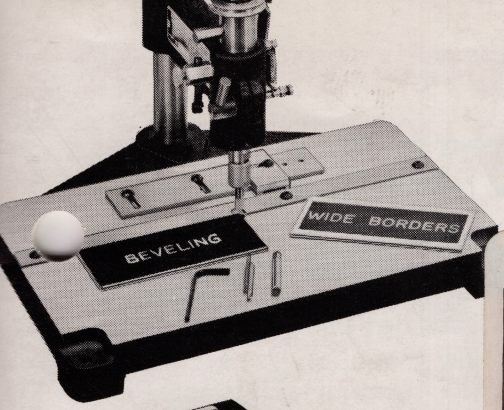

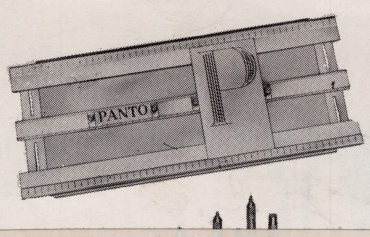

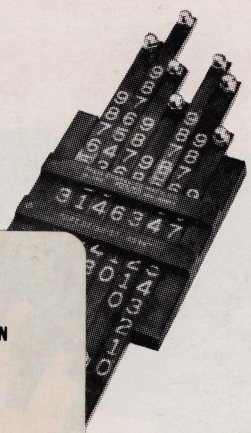

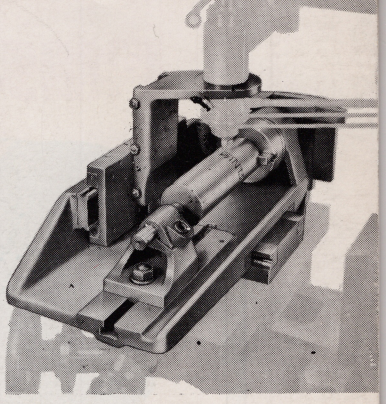

PHILLIPS SUPPLY CO.
A DIVISION OF PHILLIPS CORPORATION

4910 LEHIGH ROAD
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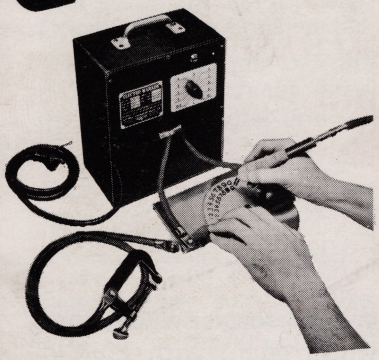


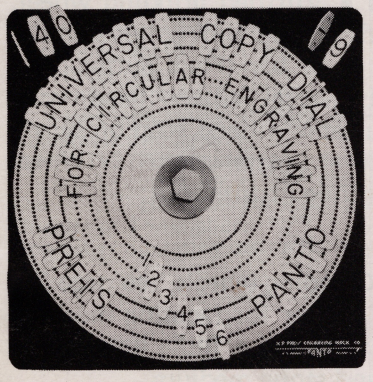
LIST 103-B

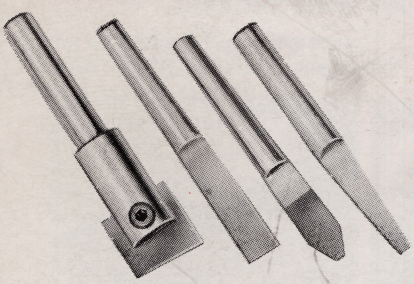
Preis

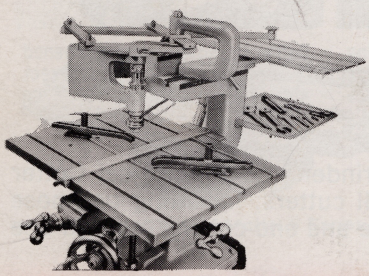
ATTACHMENTS ACCESSORIES CUTTERS and MASTER COPY TYPE

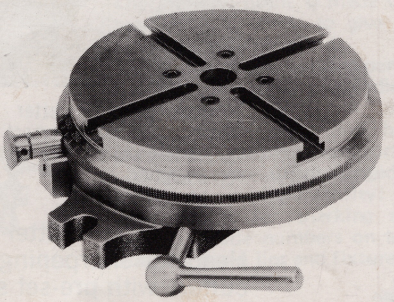
CONTENTS

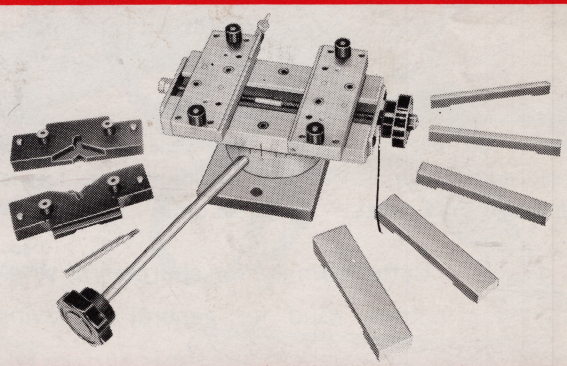
Belts, Endless Round	7	Depth Regulators	9
Beveling Machine	3	Electro-Markers	3
Brass Strips, (plain & beveled)	14	Foot Switches	9
Collets & Chucks	11	Grinding Wheels	7
Compound Lead Screw Slides	3	Interchangeable Cutter Heads	23
Copy Devices	6	Machine Lights	9
Copy Holder Clamps	9	Master Copy Type	15-22
Copy Holder Tables	8	Name Plate Holders	22
Copy Slides	8	Special Master Templates	21-22
Crayon Filler	7	Table Dogs	10
Cutter Grinders	2	Tracing Styles	10
Cutters, all styles & sizes	12-13	Wheel Truing Diamonds	7
Cutters, diamond tipped	13	Work Holding Devices	4-5











H. P. PREIS ENGRAVING MACHINE COMPANY

TRADEMARK PANTO

651 U.S. HIGHWAY 22 — HILLSIDE, N.J. 07205

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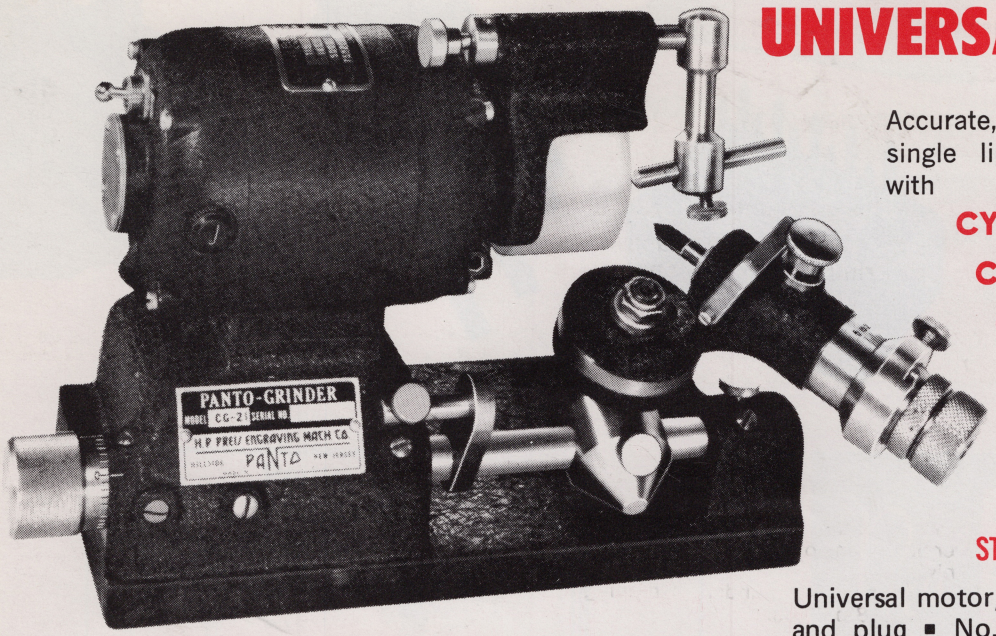
PREIS-PANTO CUTTER GRINDER WITH PLAIN OR UNIVERSAL CUTTER HEAD



Accurate, inexpensive, for sharpening all single lip engraving and routing cutters with

CYLINDRICAL-FLAT, CONICAL-POINTED, CONICAL-FLAT, or BALL-NOSE CUTTING TIPS.

GENERAL SPECIFICATIONS

Universal ball bearing motor, totally enclosed.

Grinding cup wheel 2¼" diameter mounted directly on motor.

Cutter head graduated from 0 - 90° for grinding any side angle, equipped with index unit for grinding also 2, 3 or 4 sided cutters.

Collet capacity up to ¼" straight shank and standard taper bore.

Feed screw knob graduated in 1/1000 inch for accurate cross feed.

Total length - 9½", width - 4½", height - 6".

Net weight 13 pounds. Shipping weight 16 pounds.

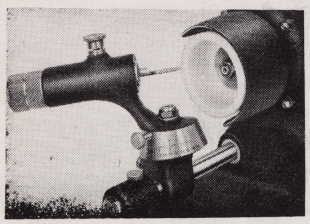
STANDARD EQUIPMENT

Universal motor, 115 volt with toggle switch, cord and plug ▪ No. 1061 wheel guard with built-in wheel truing diamond ▪ Vitrified grinding wheel, medium (80 grit) ▪ Cutter head with collet spindle, index unit and collet draw bar (Plain cutter head with model CG-2. Universal cutter head with model CG-21.) ▪ Adjustable in-feed stop on swivel shaft ▪ Wheel wrench ▪ Cutter wrench ▪ Wheel truing diamond ▪ Operating instructions.

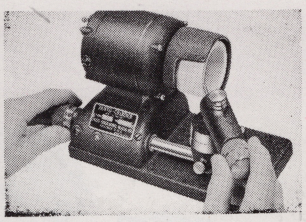
EXTRA EQUIPMENT

Collets, see page 11 ▪ Grinding wheels, see page 7 ▪ No. 1100 special tool holder for faceting machine 6mm x 12mm Posulex cutters ▪ India hand stone medium ▪ Arkansas hand stone medium.

MODEL CG-2



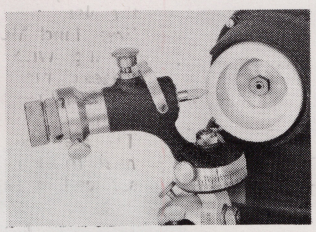
Model CG-2 with plain cutter head for sharpening taper shank or straight shank cutters.



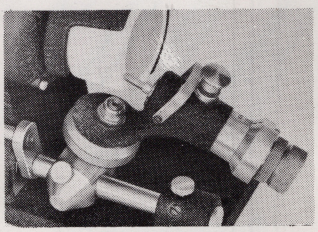
Left hand controls depth of grinding while right hand rotates the cutter.

Model CG-2 Cutter Grinder for sharpening single lip engraving cutters used for general engraving on name plates, signs, panels and other surface engraving. This model has a plain cutter head with swivel bracket graduated from 0 to 90° for sharpening cutters to any desired side angle. Adjustable stop on swivel shaft controls length of cutting tip and side cutting clearance is determined by the operator's discretion.

MODEL CG-21



Conical pointed cutter being sharpened with correct side angle and pre-set side clearance on Model CG-21.



Ball-nose cutter being sharpened in one single set-up with correct side and end-cutting relief on Model CG-21.

Model CG-21 Cutter Grinder has a Universal Cutter Head for sharpening all cutters, including ball-nose cutters with pre-set side and end-cutting relief in one single application.

The cutter head has a cutter aligning bar for positioning cutter in collet. The swivel bracket is graduated from 0 to 90° for sharpening cutters to any desired side angle.

The swivel arm is graduated from 0 to 45° for positive side cutting clearance and the swivel knuckle has graduations from 0 to 35° for grinding end-cutting relief or rake on flat tipped or ball-nose cutters. Adjustable stop is provided on swivel arm for controlling length of cutting tip.

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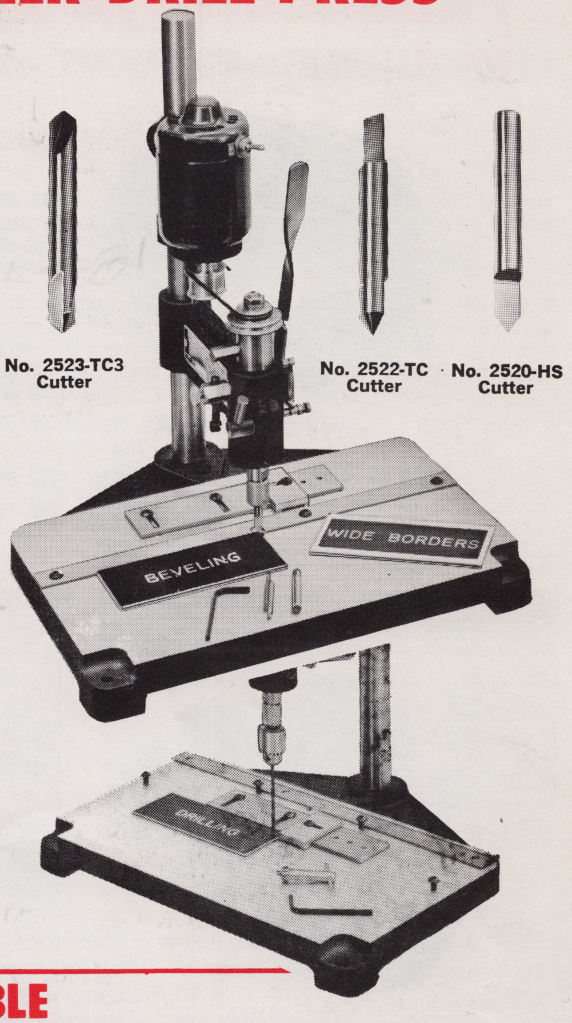
PREIS-PANTO TWO-IN-ONE BEVELER-DRILL PRESS

MODEL FD-925 for plastic or metal name plates, panels, strips and tags requiring bevels, borders or drilled holes.

Does the work of two machines. Cuts bevels or flat borders by sliding a plate along the straight edge. Converts in minutes to a drill press by replacing the straight edge and cutter with a drill jig and drill chuck. The heavy duty ball bearing spindle takes ¼" diameter cutters.

Depth of cut is set accurately with the adjustable stop and a hand lever with automatic spring return is provided for drilling while the spindle is locked in its housing for beveling.

The vertical column permits the cutter spindle to be raised for a maximum of 6" clearance under the cutter. Three drill chucks for drills up to 5/32" diameter are available.



No. 2523-TC3 Cutter

No. 2522-TC Cutter

No. 2520-HS Cutter

SPECIFICATIONS

Work table surface, 8 x 12 inches.
Distance from column to center of cutter, 5 inches.
Maximum height from table surface to cutter point, 6 inches.
Cutter spindle with precision, prelubricated ball bearings with two speeds of 10,000 and 15,000 rpm.
Universal ball bearing motor, 115 volt with switch, cord and plug.
Vertical spindle travel up to ½ inch with adjustable stop.
Overall dimensions 11" x 12" x 14" high.
Net weight 14 pounds. Shipping weight 18 pounds.

STANDARD EQUIPMENT

Basic machine with cutter spindle assembly, motor unit assembly and vertical column.
Two endless round belts.
12" long adjustable straight edge.
Adjustable drill jig unit.
One #2522-TC double end tungsten carbide cutter for plastic plates.
One #2520-HS cutter for metal plates.
One set of 4 wrenches.
One set of operating instructions.

EXTRA EQUIPMENT

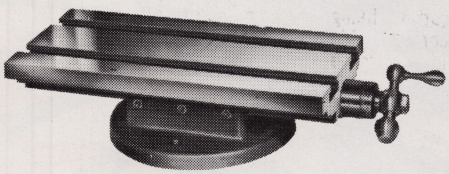
No. 2523-TC3 Double end, 3 flute tungsten carbide cutter for beveling plastic plates.
No. 0 Jacobs drill chuck, 5/32" capacity with key.
No. J0-15-25 Albrecht precision keyless chuck, .008" to .063" capacity.
No. J0-30-25 Albrecht precision keyless chuck, .013" to .125" capacity.

(For drill chucks see page 11)

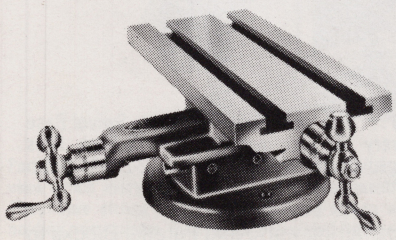
SINGLE & COMPOUND LEAD SCREW SLIDES

for use on Preis-Panto Engravers FEATURING: Chioce of compound, low positioning table, saving precious minutes in set up time.

Part #	Table Size	Tee Slots	Feed Screw Travel .001		Height	Weight
			Long	Cross		
C007	5" x 10½"	2-1"	6½"	4½"	3 3/4"	30#
S007	5" x 10½"	2-1"	6½"	—	2½"	22#



S007—For Model 6 Series.



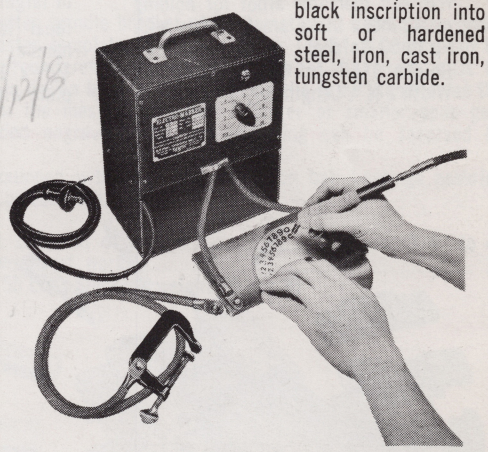
C007—For Model 7 Series.

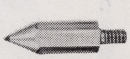
FREE-HAND, PORTABLE ELECTRO-MARKER

Can be attached to a Preis-Panto engraver. Also see U-Series catalog.

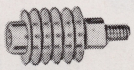
The Preis Electro-Marker closes into a convenient carrying unit that can be taken right to the work in any part of the plant.
Free-Hand Marking is done as easily as writing with a pencil. Ten different stages of marking intensity provide a fine or bold line by simply turning the dial switch.
The marking point is made of a special heat resisting alloy to give extra long service between re-grinds.
The design of the marking pencil permits the point to stand perpendicular when used like a pencil. A cooling fin dissipates the heat and heavy cork insulation assures comfort to the operator even in prolonged usage at maximum marking intensity.
Very useful for marking sizes, part-serial- or code numbers on tools, gages, machine parts, jigs and fixtures.

Burns a permanent black inscription into soft or hardened steel, iron, cast iron, tungsten carbide.

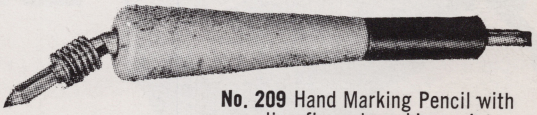




No. 135-6 Special Alloy marking point.



No. 135-7 Cooling fin for Marking Pencil.



No. 209 Hand Marking Pencil with cooling fin and marking point.

MADE IN TWO MODELS

Model EM-60, 500 watt, standard duty for marking finish machined or ground parts and tools.
Model EM-120, 1000 watt, heavy duty for marking also through scale or dirt on heat treated or rough parts and tools.

SPECIFICATIONS

Model	Electrical Specifications	Watts	Size	Net Wgt.	Ship. Wgt.
EM-60	115 or 230 v. AC - 50 to 60 cyc.	500	8-1/2" x 10" x 6"	20	25
EM-120	115 or 230 v. AC - 50 to 60 cyc.	1000	8-1/2" x 10" x 6"	25	30

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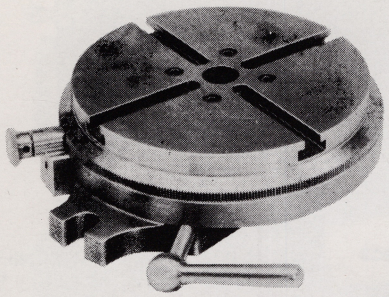
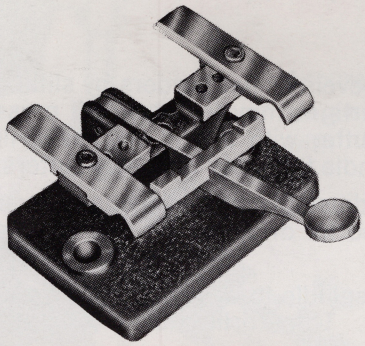
PREIS-PANTO WORK HOLDING DEVICES

FOR ALL PANTO-ENGRAVERS



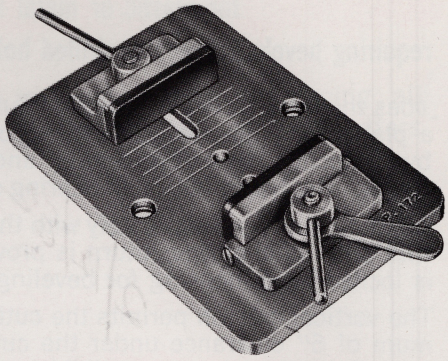
ROTARY WORK TABLE

Part No. RW-5 . . . 5″ Diameter Top Plate with four 1/4″ T-Slots and 5/8″ Center Hole. Has 360 Notches in Rim with Index Unit and Cam Lock. Overall Height 1-3/4″.



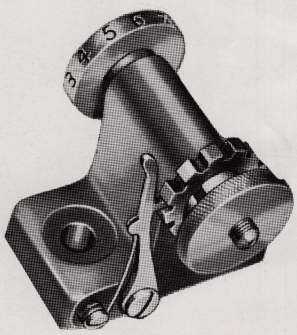
PEN HOLDING FIXTURE

Part No. 178 . . . For clamping Pens, Pencils and other cylindrical parts up to 3/4″ diameter in Vee-Grooves of Jaws. Reverse Jaws for clamping flat or rectangular parts. Opening between Jaws adjustable from 1″ to 2-1/4″. Overall Height 2-1/4″, Width 2-3/4″, Length 4″.



UNIVERSAL WORK HOLDER

Part No. 172 . . . Adjustable Swivel Jaws have interchangeable Hard Rubber Inserts and Cam Lock. Jaws are 3/4″ high, 2″ long and Maximum Opening is 3-1/4″.
Overall Height 1-1/16″, Width 4″, Length 6″.



TYPE WHEEL HOLDER

Part No. 216 . . . For rapid indexing when engraving Type Wheels, Collars and Rings up to 3″ diameter. Has 1/4″ diameter arbor for holding work. Index Disks are available with up to 50 Notches.
Height 1½″ to Center of Arbor, Width 2¾″, Length 3½″.

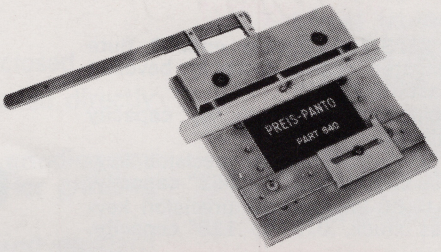
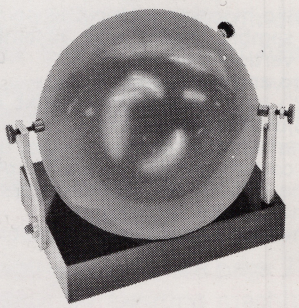


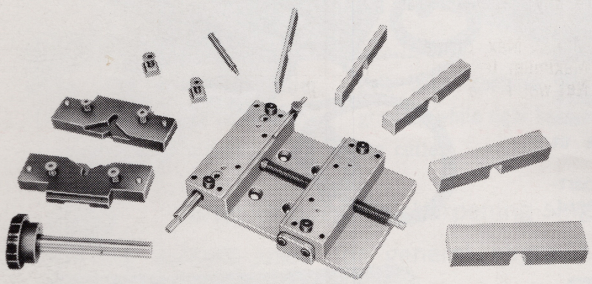
PLATE CLAMPING VISE

Part No. 840-6 . . . 6″ x 6″ long Base plate for clamping plates from 1/4″ up to 3″ wide by 6″ long.
Part No. 840-12 . . . 6″ x 12″ long Base plate for clamping plates from 1/4″ up to 3″ wide by 12″ long.
Part No. 840-125 . . . 8″ x 12″ long Base plate for clamping plates from 1/4″ up to 5″ wide by 12″ long. (For Model 2D-4 Panto Engraver or larger machines.)
Ideal for production engraving of plastic name plates. Simply pull handle, insert plate to be engraved and release handle. Consists of 1/2″ x 1½″ x 5½″ long spring clamping unit mounted on 3/8″ Base plate with adjustable straight edge and end stop.

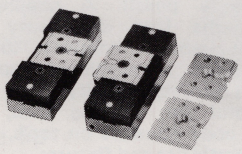


BOWLING BALL HOLDER

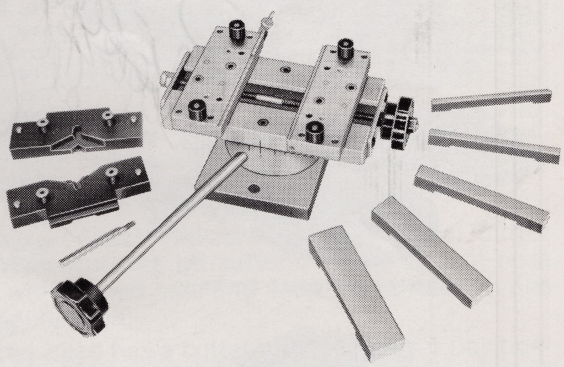
Part No. 910 . . . Bowling Ball fits into Nest of plastic Base Plate, against two Back Stops. Front Clamp swivels out of the way for insertion and removal of Ball. Requires minimum of 9″ Height from Work Table to Cutter Point.



Part No. 700 . . Can be locked directly from Feed Screw or from geared Drive Shaft. Jaws are 3/4″ high. Overall Height of Vise 1-1/16″, Width 4″, Length 6″.



Part No. 950 . . . Extra Equipment for No. 700 or No. 710 Multi-Grip Vise. Inserts made in Plastic or Brass for holding Cuff Links, Tie Clasps, small Medallions, Charms and similar shaped Items. Inserts for other Shapes made to Order.



Part No. 710 . . . Has self-centering screw, Swivel Base graduated every 15° with quick action Cam Lock. Jaws are 1/2″ high. Overall Height of Vise 2-1/8″, Width 4″, Length 7″.

Both MULTI-GRIP vises have dovetail Grooves in Jaws for clamping flat Plates, adjustable stops for centering work, and Parallel Blocks to hold thin Plates flat in Jaws. Maximum Opening between Jaws 3″. Plastic Jig Plates are mounted on Jaws; they have different shaped cutout on each side for clamping various shaped articles. Jaws are drilled with a series of 3/16″ Holes to insert Plastic Jig Bushings for clamping Plates up to 5-1/2″ wide or round Disks up to 6-1/2″.

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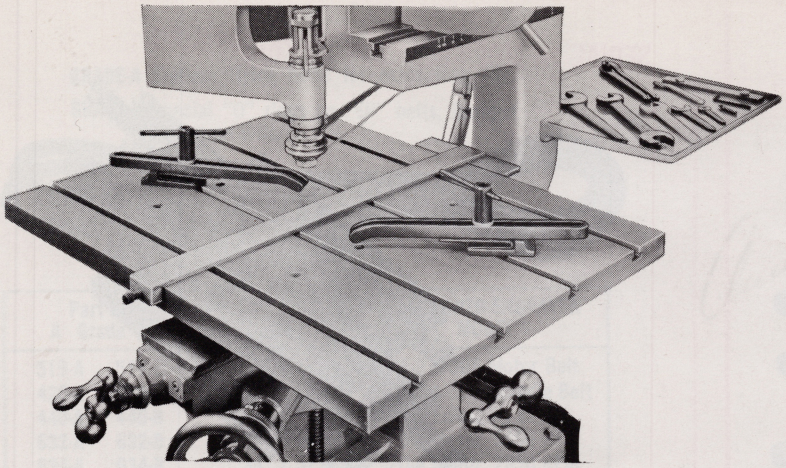
PREIS-PANTO WORK HOLDING DEVICES

FOR MODEL 2D-4 PANTO-ENGRAVER



AUXILIARY WORK TABLE

Part No. 594-A . . . 18″ x 24″ x 1″ high with four 3/8″ tee-slots, complete with 4 Bolts and Tee-Nuts, two 10″ long Spring Clamps, one Tee-Square and Crank Handle Extension.
Net weight 60 Lbs., Shipping weight 85 Lbs.

Made of seasoned Meehanite casting, machined accurately flat, it mounts on the standard work table of the model 2D-4 Panto-Engraver as shown or at right angles. Large signs are easily lined up straight against the Tee-Square and held flat with the large spring clamps close to the cutter.

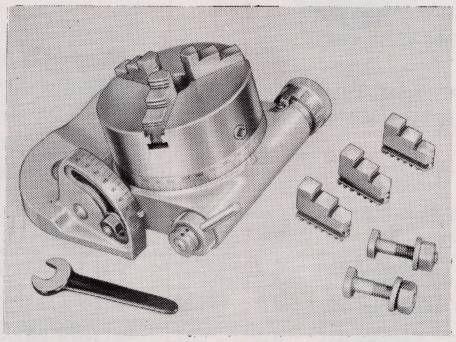
Part No. 697 . . . 10″ long Spring Clamp with 3/8″ x 2-1/4″ long bolt.

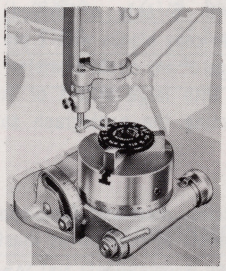
Part No. 610 . . . 18″ long Tee-Square.

Part No. 695 . . . Crank Handle Extension, 5″ long.

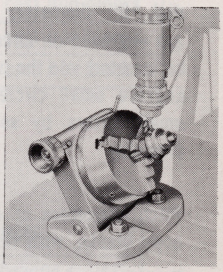
DIVIDING HEAD

Part No. DH-4 . . . An important accessory for engraving, light milling, profiling and layouts on dials, cams, templates, round dies, cylindrical parts or any work requiring circular or semi-circular divisions and angular set-ups.
The back plate of the keyless 3-jaw chuck is graduated in 360 degrees. The chuck is rotated by a worm gear which can be disengaged with a hand lever for free-hand turning. The base is graduated from 0 to 90 degrees and can be locked at any angle from a vertical to a horizontal position.





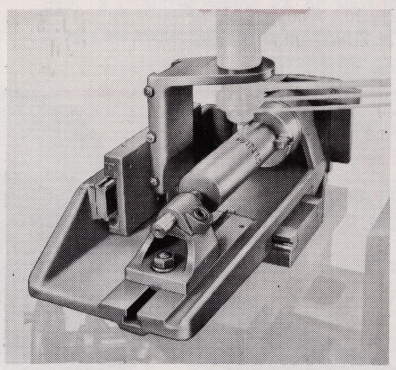
In vertical position for engraving flat dials.



In angular position for engraving bevel dials.

SPECIFICATIONS
Height of chuck in vertical position (at 0 degree) 3-1/4″.
Center line of chuck in horizontal position (at 90 degrees) 2-1/4″.
Overall dimensions 7-1/2″ x 7-1/2″ x 4″ high.
Net weight 15 Lbs., Shipping weight 20 Lbs.

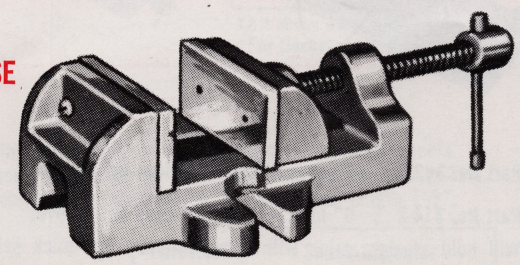
CYLINDER-ROLLER ATTACHMENT



Part No. P-100-7 . . . Permits engraving around the circumference of cylinders or straight dials up to 4″ diameter.
It attaches to the extension of the cutter spindle bracket and automatically turns the cylinder or dial while tracing from a flat master template. Cylinders up to 1-5/8″ diameter can be engraved completely around their circumference in one set-up, larger diameters must be sub-divided. The keyless 3-jaw chuck is driven by a spur gear having the same diameter as the work for accurate reproduction from the master template. A larger or smaller spur gear will result in condensed or extended engraving and the engraving can be reversed by inverting the gear rack.
All moving and turning parts are equipped with adjustable precision ball bearings assuring minimum resistance without any play or backlash.

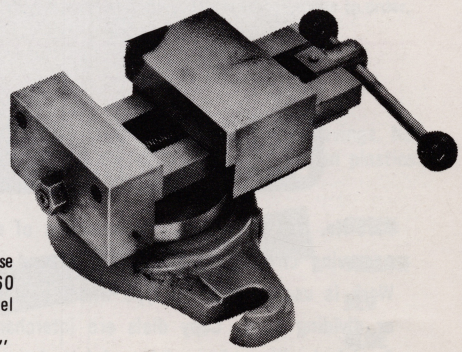
SPECIFICATIONS
Min. & Max. diameter of work ..... 3/4″ to 4″
Maximum length of work ..... 7″
Net weight 55 Lbs., Shipping weight 75 Lbs.

PLAIN VISE



Part No. 320-P . . . For use on engraving or milling machines. Handy general purpose vises which every shop needs. Highly recommended for use on engraving machines. They have strong fine thread adjusting screws and ground steel jaws grooved for holding name plates. Bolt lugs are provided for riged mounting on machine table.
Jaws are 3″ wide, 1-1/2″ deep and open to 3″.
Overall Height 2-1/4″, Width 5″, Length 8″.
Net weight 8 lbs., Shipping weight 11 lbs.

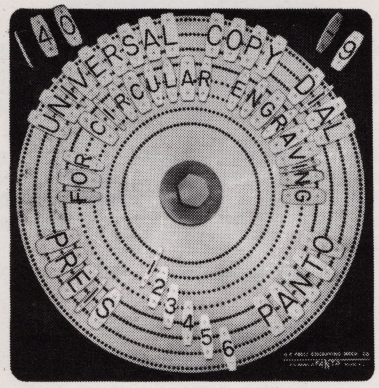
SWIVEL VISE



Part No. 3749-S . . . Similar to Plain Vise but with swivel base graduated for 360 degree turn. May be removed from swivel base for use as plain vise.
Jaws are 4″ wide, 1″ deep and open to 4″.
Overall Height 3-3/4″, Width 4″,
Length 9″.
Net weight 17 lbs., Shipping weight 20 lbs.

PREIS-PANTO COPY DEVICES FOR ALL PANTO-ENGRAVERS

UNIVERSAL COPY DIAL For circular engraving



Part No. 140-9 . . . . . Consists of a base plate and a rotating dial, 9″ diameter, with 6 sets of drilled circles. Letters are engraved on circular copy blanks with 2 pin studs which can be inserted into the holes of any circle diameter.
Engrave small circles with large letters or large circles with small letters by selecting the pantograph setting and circle diameter.

SPECIFICATIONS

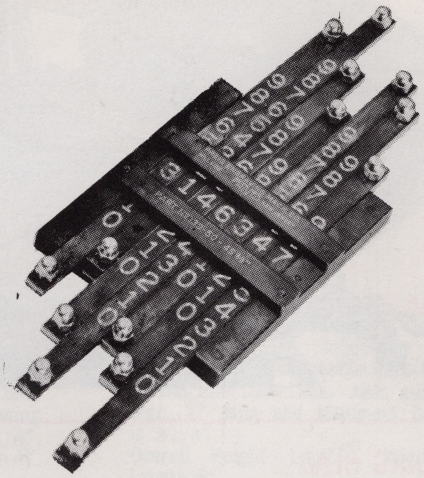
Pitch diameters of circles, measured from center to center of copy blanks, with numerals in position as illustrated:

Numeral 1 – 4-3/32″ diameter
Numeral 2 – 4-7/8″ diameter
Numeral 3 – 5-11/16″ diameter
Numeral 4 – 6-15/32″ diameter
Numeral 5 – 7-1/4″ diameter
Numeral 6 – 8-1/32″ diameter

Circular copy type is furnished in sunk vee-groove, reading right or reverse, in plain gothic style as follows.
Styles No. 1S to 4S in 3/8″, 1/2″, or 5/8″ high letters.
Styles No. 5S or 6S with 3/8″ or 1/2″ high letters only.

For specimen of plain gothic letters see page 16.
Other styles upon request.

SERIAL NUMBERING COPY HOLDER



This copy device consists of a base plate with 7 steel slides, each engraved with 10 numerals from 0 through 9. An index notch is provided for each numeral for quick selection of any combination required when engraving consecutive serial numbers, part numbers or any item where numbers change frequently.

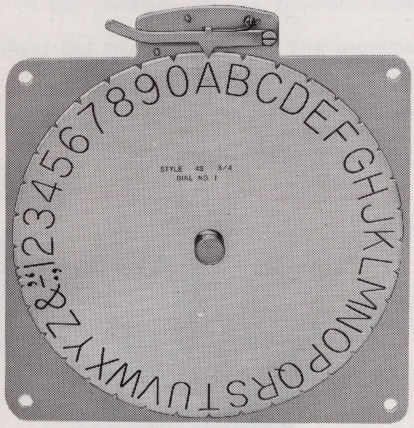
AVAILABLE IN 2 SIZES

Part No. 139-50 . . . 7 slides, 7/16″ wide, in style No. 2S, condensed gothic, 1/2″ high or style No. 4S, normal gothic, 3/8″ high.

Part No. 139-75 . . . 7 slides, 5/8″ wide, in style No. 2S, condensed gothic, 3/4″ high or style No. 4S, normal gothic, 5/8″ high.

For specimen of plain gothic letters see page 16.

COPY DIAL HOLDER shown with 10″ diameter copy dial.



Part No. 317 . . . For rapid selection of master letters when engraving circular lines on dials, around wheels or cylinders. Work is usually held on type wheel holder, rotary work table or dividing head. Copy dials are interchangeable and can be furnished with various styles of lettering.

For standard copy dials see page 16.

INDEX MASTER HOLDER

shown with index master strip.

Part No. 313-1 . . . 4″ long with 1-1/4″ dove-tail groove.

Part No. 314-2 . . . 6″ long with 2-1/4″ dove-tail groove.
Will hold master strips with index notches for quick selection of numerals when engraving numbering wheels, dials or rings held on type wheel holder, rotary work table or dividing head. Master strips are usually furnished with plain gothic numerals from 0-9 but can be made to order with any copy required.

For specimen of plain gothic letters see page 16

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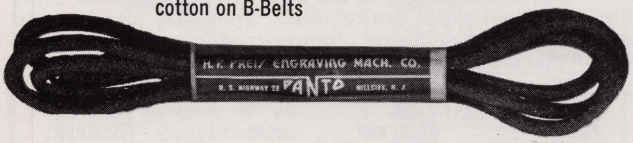
PREIS-PANTO GRINDING WHEELS, BELTS *and miscellaneous items*

ENDLESS ROUND BELTS

GRADE-A Endless Nylon belts for extra long life.

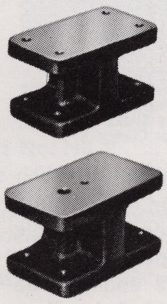
GRADE-B Special "O" rings on "EP" belts, Braided cotton on B-Belts



Part No. A	Part No. B	Size	FOR PANTO-ENGRAVER MODEL
519-A	519-EP	19-1/4" x 5/32"	UE-3 & 3D5 Motor Belt
426-A	426-EP	26" x 1/8"	UE-3 & 3D5 Spindle Belt
440-A	440-B	40" x 1/8"	3D-5 Enlarging Belt
632-A	632-B	32" x 3/16"	2D-4 Motor, 3450 RPM
634-A	634-B	34" x 3/16"	2D-4 Motor, 2850 RPM
776-A	776-B	76" x 5/32"	2D-4 Spindle Belt
498-A	498-B	98" x 1/8"	Deckel G1U Spindle
4105-A	4105-B	105" x 1/8"	Deckel G1L Spindle

Grade "B" Belts are also stocked for other makes of engraving machines. When ordering, state make, model and length required. Special sizes made to order in lots of 10 or more belts of one size.

ELEVATING BLOCKS

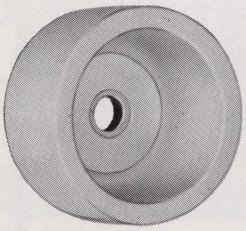


are used as a means of increasing the height between the cutter spindle and work table surface. Top and bottom surfaces are ground parallel. They are sold in sets of 2 blocks for raising the pantograph and the copy holder plate to any desired height.

FOR ALL PREIS-PANTO ENGRAVERS EXCEPT MODEL 2D-4

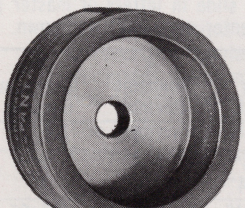
Part No.	Height
718-1	1" high steel blocks
718-2	2-1/4" high cast iron blocks
718-3	3" high cast iron blocks
718-4	4" high cast iron blocks

GRINDING WHEELS FOR PREIS PANTO CUTTER GRINDERS



VITRIFIED ALUNDUM WHEEL

Part No.	Size	Hole	Rim	Grit	RECOMMENDED USES
260-V	2-1/4" x 1-1/4"	3/8"	3/8"	60-J COARSE	For fast stock removal and halving cutters.
280-V	2-1/4" x 1-1/4"	3/8"	3/8"	80-J MEDIUM	For general purpose cutter sharpening.
2100-V	2-1/4" x 1-1/4"	3/8"	3/8"	100-J FINE	For fine points and smooth finishes.
2150-V	2-1/4" x 1-1/4"	3/8"	3/8"	150-J X-FINE	For fine points and extra smooth finishes.
480-V†	4" x 2"	20mm	3/8"	80-J MEDIUM	For general purpose cutter sharpening.
4100-V†	4" x 2"	20mm	3/8"	100-J FINE	For fine points and extra smooth finishes.
454-CR†	4" x 2"	20mm	1/2"	54 COARSE	For general grinding of cobalt cutters.
460-CF†	4" x 2"	20mm	1/2"	60 MEDIUM	For finer finishes on cobalt cutters.



DIAMOND IMPREGNATED WHEEL

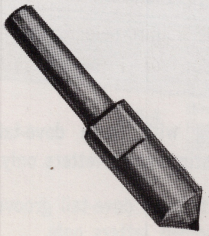
CRYSTOLON AND DIAMOND IMPREGNATED WHEELS FOR SHARPENING TUNGSTEN CARBIDE CUTTERS.

Part No.	Size	Hole	Rim	Grit	RECOMMENDED USES
2120-CR	2-1/4" x 1-1/4"	3/8"	3/8"	120-MC MEDIUM	**Crystolon wheel** for rough grinding only.
4120-CR†	4" x 2"	20mm	3/8"	120-MC MEDIUM	**Crystolon wheel** for rough grinding only.
2215-DF*	2-1/4" x 1"	3/8"	1/4"	100-50 COARSE	**Diamond impregnated wheel** for fast stock removal and halving cutters.
2245-DF*	2-1/4" x 1"	3/8"	1/4"	240-50 MEDIUM	**Diamond impregnated wheel** for general sharpening.
2205-DP**	2" x 1"	3/8"	1/4"	240-50 MEDIUM	**Diamond impregnated wheel** for grinding faceted tools (posulex).
2255-DF*	2-1/4" x 1"	3/8"	1/4"	500-50 FINE	**Diamond impregnated wheel** for extra smooth finishes.

*All above diamond wheels have diamond in rim 1/16" deep, 50 concentration, **diamonds in periphery. Other wheels made to order.
†For Deckel and Alexander cutter grinders only.

WHEEL TRUING DIAMONDS

For dressing Vitrified Alundum or Crystolon grinding wheels. Each dresser has double diameter shank and can be used in 2 different collets. Each diameter is ¾" long, total length 1½".

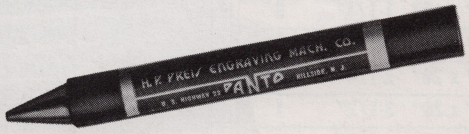


Part No.	Shank Diameter
115-59	1/8" and 5/32" shank
187-25	3/16" and 1/4" shank
250-50	5/16" and taper shank
106-25	1/4" for part no. 1061

ENGRAVERS CRAYON FILLER

Color impregnated parafin sticks, 4" long, for color filling engravings. Not as permanent as paint or lacquer, but easier to use especially on plastics. Available in colors listed below.

*GOLD
*SILVER
BLACK
WHITE

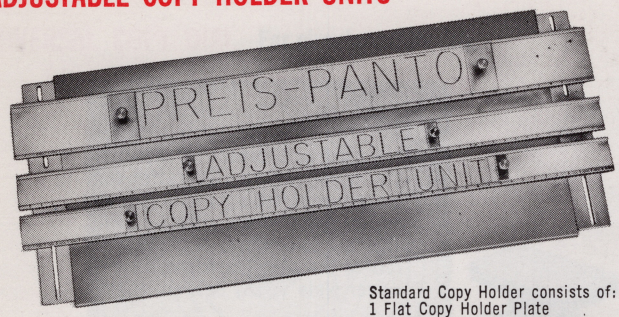


GREEN
YELLOW
RED
BLUE

*Sold individually. All other colors in dozen lots only, assorted or all one color.

PREIS-PANTO COPY HOLDERS

ADJUSTABLE COPY HOLDER UNITS



Standard Copy Holder consists of:
1 Flat Copy Holder Plate
1 Center Copy Slide with Double T-Square
2 Single Copy Slides
6 Copy Holder Clamps

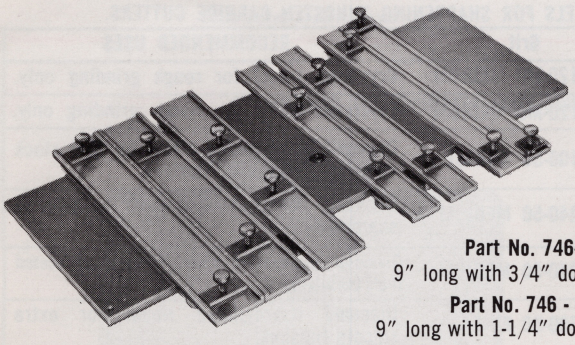
Adjustable Copy Holders permit individual spacing of each slide for multiple line engraving. The flat copy holder plate is mounted onto the machine and the center slide with double ended T-square locks on the plate. The single copy slides attach to the cross bars of the center slide and can be adjusted to any desired spacing. The complete unit can then be moved across the flat plate and locked in any position without disturbing the spacing between the individual slides.

1 Part Number	2 Size of Copy Holder Plate	3 W and L of Copy Slides	4 Dove-Tail Groove	5 Slides on Unit	6 Fits Panto Models
149A - 3/4	1/4" x 6" x 8½"	1" x 9-3/4"	3/4"	up to 5	all models except model 2D-4
116A - 3/4	1/4" x 6" x 16"	1" x 18"	3/4"	up to 7	
116A - 1-1/4	1/4" x 6" x 16"	1-1/2" x 18"	1-1/4"	up to 5	
622A - 1-1/4	1/4" x 6" x 16"	1-1/2" x 26"	1-1/4"	up to 5	
622A - 2-1/4	1/4" x 6" x 16"	2-1/2" x 26"	2-1/4"	up to 3	
655A - 1-1/4	1/4" x 12" x 22"	1-1/2" x 26"	1-1/4"	up to 7	model 2D-4 only
655A - 2-1/4	1/4" x 12" x 22"	2-1/2" x 26"	2-1/4"	up to 5	

For use with other engraving machines specify make and model.

CROSS COPY SLIDES

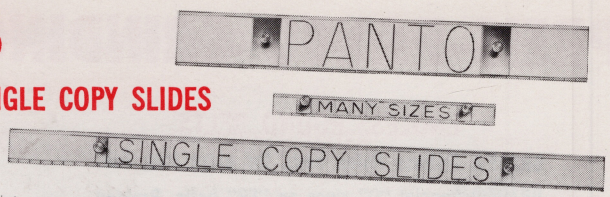
clamp across the 6" wide copy holder plate at right angles to the standard copy slides. Available in two sizes.



Part No. 746-3/4"
9" long with 3/4" dove-tail groove

Part No. 746 - 1-1/4"
9" long with 1-1/4" dove-tail groove

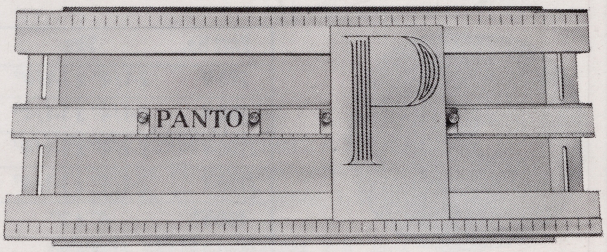
SINGLE COPY SLIDES



Single copy slides attach to the adjustable copy holder units when additional slides are required. They may also be used as individual copy slides on other engraving machines. Made with all standard dove-tail grooves in sizes listed below.

1 Part Number	2 Width and Length	3 Dove-Tail Groove	4 Fits Copy Holder Unit
149-2	1" x 9-3/4"	3/4"	149 only
416 - 3/4	1" x 18"	3/4"	116, 622
416 - 1-1/4	1-1/2" x 18"	1-1/4"	116, 622
626 - 1-1/4	1-1/2" x 26"	1-1/4"	116, 622
656 - 1-1/4	1-1/2" x 26"	1-1/4"	655 only
612 - 1-1/4	1-1/2" x 36"	1-1/4"	116, 622, 655
416 - 2-1/4	2-1/2" x 18"	2-1/4"	116, 622
627 - 2-1/4	2-1/2" x 26"	2-1/4"	116, 622
656 - 2-1/4	2-1/2" x 26"	2-1/4"	655 only
623 - 2-1/4	2-1/2" x 36"	2-1/4"	116, 622, 655
635 - 3-1/2	4" x 36"	3-1/2"	116, 622, 655
645 - 4-1/2	5" x 36"	4-1/2"	116, 622, 655

VARIABLE COPY SLIDES



A set of two variable copy slides will adjust to any template size up to the maximum opening shown in column 5. They attach to the copy holder unit in place of single copy slides, one on each side of the center copy slide.

Adjust and lock both slides in position, slide in letters or master plate and hold with copy holder clamps in center copy slide as shown.

1 Part Number	2 Width and Length	3 Fits Copy Holder Unit	4 Minimum Opening	5 Maximum Opening
459-2	1" x 9-3/4"	149A-3/4"	1-1/4"	5-3/4"
459-1	1-1/2" x 18"	116A-3/4" 116A-1-1/4"	1-1/4" 1-3/4"	7" 7"
629	2" x 26"	622A-1-1/4"	2"	6-5/8"
657	2" x 26"	655A-1-1/4" 655A-2-1/4"	2" 3"	10-1/2" 10-1/2"

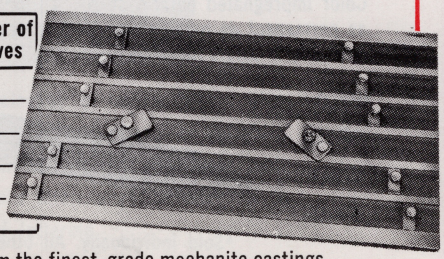
Variable copy slides will only fit copy holder units shown in column 3.

All above copy slides are engraved with graduations at intervals of 1/2" and numbered, starting with zero (0) at the center for centering all master copy.

COPY HOLDER TABLES

For Model 2D-4 Panto Engraver. Can be furnished with flange to fit other makes of engraving machines. Specify make and model when ordering.

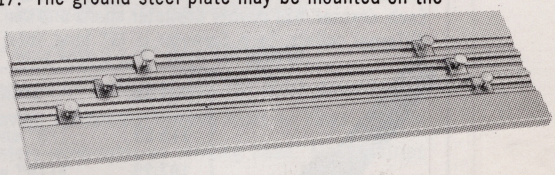
Part No.	Width & Length	Sizes of Grooves	Number of Grooves
1815-6	10" x 18"	1-1/4"	6
2615-3	6" x 26"	1-1/4"	3
2625-2	6" x 26"	2-1/4"	2
2635-1	6" x 26"	3-1/2"	1
2645-1	6" x 26"	4-1/2"	1



All copy holder tables are made from the finest grade meehanite castings. The dove-tail grooves are machined accurately to fit all standard sizes of master copy blanks.

COPY HOLDER TABLES

. . . for holding three-dimensional, plastic molded master copy type illustrated on page 17. The ground steel plate may be mounted on the standard copy table of any three-dimensional engraving or die cutting machine. Made in two sizes.



Part No. 32-25 . . . 3/8" x 4" x 12" long with three dove-tail grooves, 17/32" wide for holding 1/4" high plastic molded letters only.

Part No. 32-50 . . . 3/8" x 5" x 18" long with three dove-tail grooves, 25/32" wide for holding 1/2" high plastic molded letters only.

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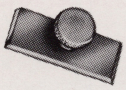
DEPTH REGULATORS, COPY HOLDER CLAMPS *and miscellaneous items*

COPY HOLDER CLAMPS

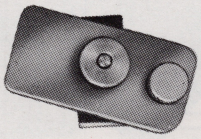


Part No. 45A for locking master copy type in dove-tail grooves of all standard copy tables and copy slides listed on page 8.

Part No.	for dove-tail grooves
45A-25 *	17/32"
45A-50 *	25/32"
45A-3/4	3/4"
45A-1-1/4	1-1/4"
45A-2-1/4	2-1/4"
45A-3	3"
45A-3-1/2	3-1/2"
45A-4	4"
45A-4-1/2	4-1/2"

*For 32-25 or 32-50 Copy Holder Tables only

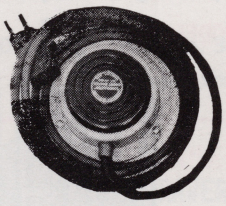
TEMPLATE CLAMPS



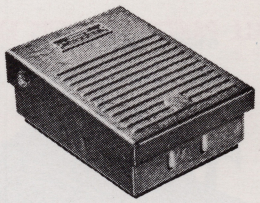
Part No. 45-L . . . for holding large templates on standard copy tables with 1¼" dove - tail grooves only.

FOOT SWITCHES

Ideal for starting and stopping any 115-230 volt, single phase motor or electrical appliance by foot pressure. Simply plug into electrical outlet and plug motor or appliance into series plug of switch.



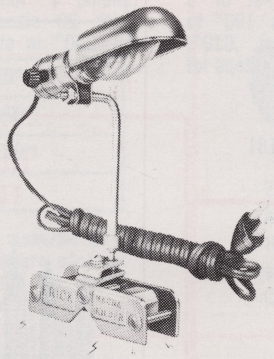
Part No. HB-2 . . . momentary contact switch, press to start—release to stop. Standard equipment with models UM-PC and UE3-PC Panto-Engravers for activating solenoid switch.



Part No. HT-52 . . . maintained contact switch, press to start — press again to stop. Use on engraving machine, cutter grinder, drill press or any small motor driven machine to turn motor on and off by foot pressure.

MACHINE LIGHTS

PART NO. 2-36 MACHINE LIGHT
Vibration proof, holds in any position. Has standard socket, 3 adjustable pivot joints, with wire totally enclosed. Heat shield prevents burning on contact, use on any machine or bench. Total length 36".



Part No. 600 . . . Handilite for pin-point lighting.

MAGNA-BASE LIGHTS
Handilites with magnetic base and magnifier will hold on any steel part of machine. Each unit complete with one 25 and 40 watt bulb, cool shade and 6 foot cord and plug. Total height 7".

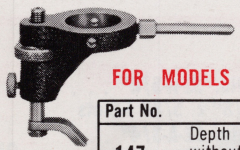
Part No. 6210 . . . Handilite for pin-point lighting with 5x power, 2" diameter, 2" focal length magnifier. Also for mounting indicator.

DEPTH REGULATOR ATTACHMENTS

This attachment assures cutting of a uniform depth on curved or irregular flat surfaces, or on objects varying in thickness. Generally recommended for engraving on plastics or other non-metallic materials.

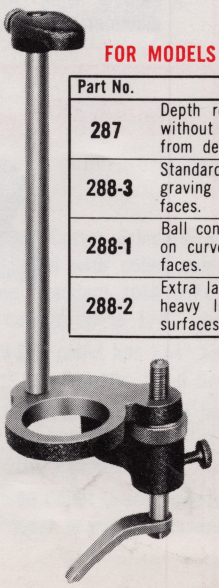
The depth regulator attaches to the cutter spindle of the Panto engraver and the foot glides over the curvatures or irregularities of the working surface either by hand pressure or gravity depending on the model. Micrometer feed is provided to adjust the foot in relation to the cutter point.

Several styles of feet are available for engraving on differently shaped surfaces. Standard foot will be supplied unless otherwise specified on order. (Illustration shows standard foot).



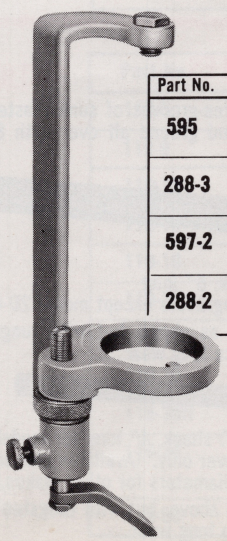
FOR MODELS UE-2T AND UE-2S

Part No.	Description
147	Depth regulator complete, but without foot. Select proper foot from description below.
134-1	Standard foot for engraving on irregular flat surfaces.
134-2	Ball foot with 3/64" hole through center for engraving fine lines up to 1/64" on curved surfaces.
134-3	Ball foot with 3/32" hole through center for engraving lines up to 1/16" on curved or flat surfaces.
134-4	Ball foot with 5/32" hole through center for engraving lines up to 1/8" on curved or flat surfaces.



FOR MODELS UE-3 AND 3D-5

Part No.	Description
287	Depth regulator complete, but without foot. Select proper foot from description below.
288-3	Standard foot for general engraving on irregular flat surfaces.
288-1	Ball contact foot for engraving on curved and cylindrical surfaces.
288-2	Extra large foot for engraving heavy lines on irregular flat surfaces.



FOR MODEL 2D-4

Part No.	Description
595	Depth regulator complete, but without foot. Select proper foot from description below.
288-3	Standard foot for general engraving on irregular flat surfaces.
597-2	Ball contact foot for engraving on curved and cylindrical surfaces.
288-2	Extra large foot for engraving heavy lines on irregular flat surfaces.

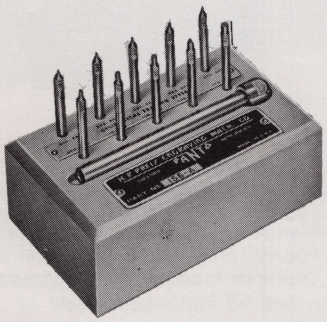
PREIS-PANTO TRACING STYLES

Tracing styles are hardened and ground all over and sizes are marked on both ends. All sets are furnished in hardwood block with plates showing sizes for easy selection.

CYLINDRICAL TRACING STYLES

For tracing from 2-dimensional raised and skeleton copy type, flat or square bottom copy type and for profiling from any template with straight side walls or flat bottom grooves.

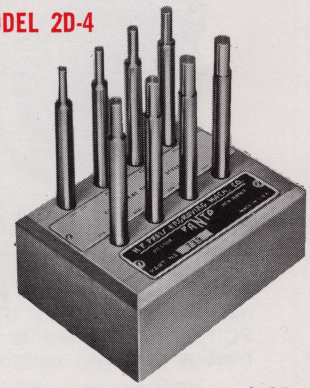
FOR ALL PANTO-ENGRAVERS EXCEPT MODEL 2D-4



Part No. 156-A . . . Set consists of part no. 156-1 and 156-2 in hardwood block.

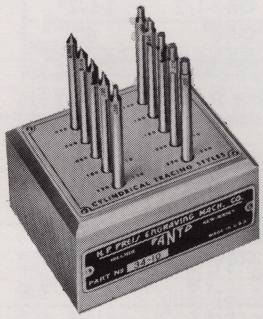
Part No. 156-1 . . . Tracing style holder only, 3/8″ shank, 5″ long with 3/16″ bore and lock nut for holding No. 156-2.

Part No. 156-2 . . . 3/16″ shank, 3″ long. Set of 10 with 20 sizes from .035″ to .080″ in steps of .005″, .080″ to .180″ in steps of .010″.

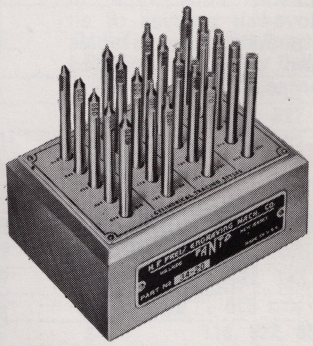


Part No. 739 . . . 3/8″ shank, 5″ long. Set of 8 with 16 sizes from .190″ to .270″ in steps of .010″, .270″ to .375″ in steps of .015″.

FOR MODEL 2D-4 PANTO-ENGRAVER ONLY

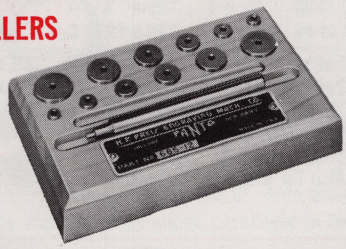


Part No. 34-10 . . . 6mm shank, 4″ long. Set of 10 with 20 sizes from .040″ to .230″ in steps of .010″.



Part No. 34-20 . . . 6mm shank, 4″ long. Set of 20 with 40 sizes from .035″ to .230″ in steps of .005″.

CYLINDRICAL ROLLERS



Use in place of cylindrical tracing styles when larger diameters are required. Rollers are hardened and ground all over and marked with sizes.

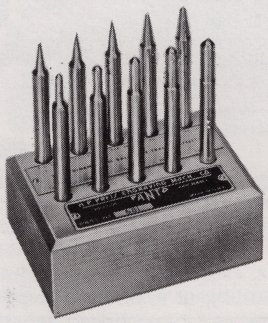
Part No. 685-6 . . . Set of 6 rollers from .300″ to .800″ dia. in steps of .100″ including one stylus. (See note.)

Part No. 685-12 . . . Set of 12 rollers from .250″ to .800″ dia. in steps of .050″ including one stylus. (See note.)

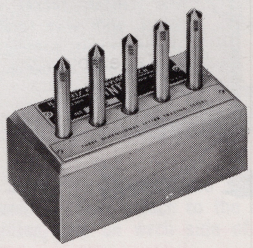
Note: 6mm (.236″) stylus for model 2D-4. 3/8″ stylus for all other Panto-Engravers. (Available also in .200″ and .250″ diameters for other makes.)

THREE DIMENSIONAL TRACING STYLES

FOR MODEL 3D-5 PANTO-ENGRAVER ONLY



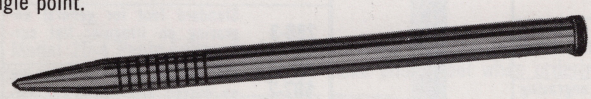
Part No. 681 . . . 3/8″ shank, ball nose for cutting bas-relief designs in molds, dies and hubs. Set consists of 10 styles ground on both ends with 20 sizes ranging from .020″ to .375″ diameter ball nose.



Part No. 682 . . . 3/8″ shank, conical pointed for tracing from 3-dimensional plastic molded master copy type. Each stylus has one conical-flat end for roughing and one conical pointed end for finishing. Set consists of one each with 35°, 40°, 45°, 50° and 55° side angle.

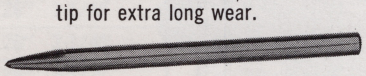
POINTED TRACING STYLES

For tracing through standard Vee-grooves of sunk master copy type. Tracing styles are hardened and ground all over with 80° included angle point.



Part No. 126-11 . . . 3/8″ shank, 6″ long fits all Panto-Engravers except model 2D-4.

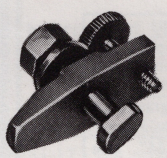
Part No. 126-11TC . . . same as above, but with tungsten carbide tip for extra long wear.



Part No. 34-80 . . . 6mm (.236″) shank, 4″ long for model 2D-4 Panto-Engraver only. (Available also in .200″ and .250″ Diameters for other makes.)

Part No. 34-80TC . . . same as above, but with tungsten carbide tip for extra long wear.

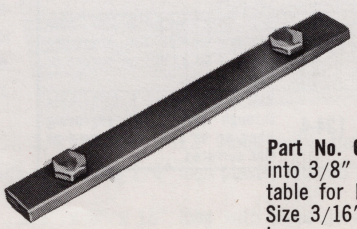
TABLE DOG



Part No. 52-A-5/8″ . . . for 3/8″ x 5/8″ T-Slots

Part No. 52-A-3/4″ . . . for 3/8″ x 3/4″ T-Slots

Strap is 2-1/2″ long with 1-5/8″ long bolt. Bolts also available in 2-1/4″, 3″ and 3-3/4″ lengths.



Part No. 609 . . . locks into 3/8″ T-slots of work table for lining up work. Size 3/16″ x 5/8″ x 6″ long.

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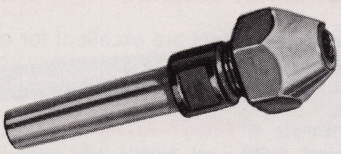
PREIS-PANTO COLLETS AND CHUCKS

FOR ALL PANTO-ENGRAVERS AND CUTTER GRINDERS

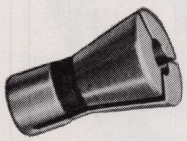
TAPER SHANK COLLETS (midget chucks) will hold 1/10" or 1/8" diameter cutter blanks listed on page 13. Collets and nuts are hardened and taper shanks are ground accurate to fit into cutter spindles with standard taper bore. Cutter blanks must be sharpened in collet to assure perfectly true running cutter point.



Part No. 387-10 . . . 1/10" (.100") bore **Part No. 387-13** . . . 1/8" (.125") bore

Available with either 3/16" or 1/4" shanks on special order.

CUTTER SPINDLE COLLETS FOR MODELS UE-2S, UE-3, UE3-PC and 3D-5 PANTO-ENGRAVERS



154 or 290

290-50

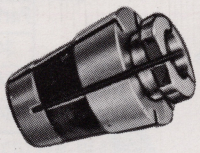
For Model UE-2S Panto-Engraver.	
Part No.	**Bore**
154-13	1/8" (.125")
154-16	5/32" (.1565")

For Models UE-3, UE3-PC and 3D-5 Panto-Engravers equipped with No. 279-A cutter spindle.	
Part No.	**Bore**
290-13	1/8" (.125")
290-16	5/32" (.1565")
290-19	3/16" (.1875")
290-50	taper bore

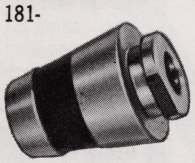
Cutter spindle collets are ground accurately to assure true running cutters. Collets for straight shank cutters are slotted three ways. Taper bore collet is solid (not slotted) for holding standard taper shank cutters and No. 387 collets.

CUTTER SPINDLE COLLETS FOR MODEL 2D-4 PANTO-ENGRAVER

(will also fit Deckel and Alexander No. 1 cutter spindles)



181-

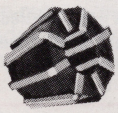


181-50

Part No.	Bore
181-06	1/16" (.0625")
181-10	1/10" (.100")
181-13	1/8" (.125")
181-16	5/32" (.1565")
181-19	3/16" (.1875")
181-25	1/4" (.250")
181-50	taper bore

2D-4 Cutter Spindle Collets are hardened and ground accurately and split from both ends to hold straight shank cutters firmly through their full length. Collet with taper bore is not slotted and will hold all standard taper shank cutters and No. 387 collets. Collets eject automatically when cutter lock nut is opened.

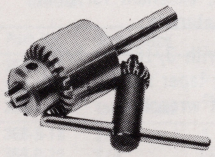
JACOBS RUBBER-FLEX COLLETS for models UE-3, UE3-PC and UE3-DR Panto-Engravers equipped with No. 922-J cutter spindle.



Part No.	Capacity Minimum		Maximum
J-112	.094"	to	.146"
J-113	.146"	to	.198"
J-114	.198"	to	.250"

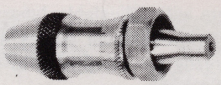
Collets are flexible and a set of only 3 collets will hold any cutter or drill ranging from 3/32" to 1/4" diameter. Ideal for decimal and metric size cutters for which standard split collets are not available.

DRILL CHUCKS



JACOBS CHUCK

Part No. 0-5/32" capacity, with key and 1/4" straight arbor



PRECISION KEYLESS CHUCKS

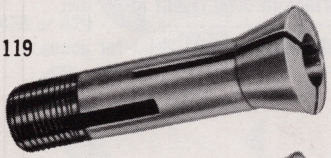
No. J0-15 chuck has .008" to .0625" capacity, size 3/4" x 1-7/16" long without arbor.

No. J0-30 chuck has .013" to .125" capacity, size 15/16" x 1-3/4" long without arbor.

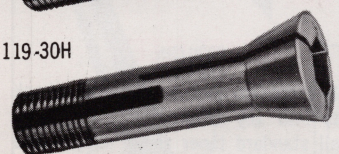
Part No.	Arbor Size
J0-15-25 } J0-30-25 }	1/4" straight shank arbor
J0-15-31 } J0-30-31 }	Collet adapter and lock nut, fits into No. 279-A cutter spindle shaft only.

COLLETS FOR PANTO CUTTER GRINDER AND MODEL 2D-4 TRACING STYLE HOLDER

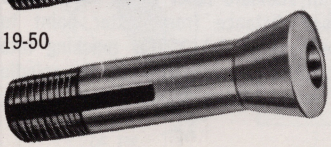
119



119-30H



119-50



Preis-Panto Cutter Grinders, models CG-2 and CG-21 are equipped with collet spindle and draw bar and will take standard split collets for holding straight shank cutters up to 1/4" diameter.

No. 119-30H collet has 1/4" hexagon bore, 1/4" deep only for grinding No. 135-6 Special Alloy Point.

No. 119-24 Collet has 6mm hole ground through full length for holding tracing stylus in pantograph of model 2D-4 Panto-Engraver.

No. 119-50 Collet is solid and has taper bore for holding all taper shank cutters and No. 387 collets.

Part No.	Bore
119-6	1/16" (.0625")
119-9	3/32" (.0937")
119-13	1/8" (.125")
119-16 (4mm)	5/32" (.1565")
119-19	3/16" (.1875")
119-25	1/4" (.250")
119-10	1/10" (.100")
119-20	2/10" (.200")
119-30H	1/4" Hex. bore,
119-24	6 m/m for 2D-4 tracing stylus
119-50	taper bore

PREIS-PANTO ENGRAVING CUTTERS, TAPER SHANK

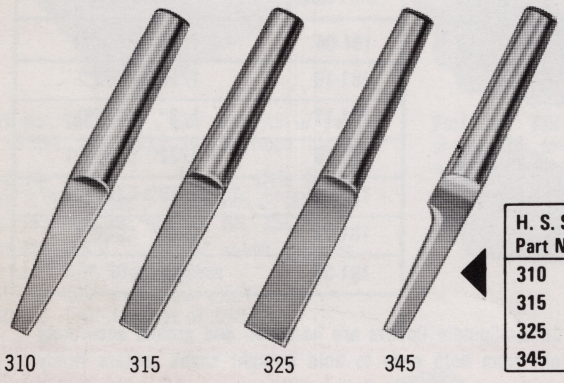
Taper shanks on all cutters are accurately ground to limits of .0002" and blend into the outside diameter with no flange or shoulder to interfere with a tight fit into any spindle or collet with taper bore.

HIGH SPEED STEEL—COBALT SUPER HIGH SPEED STEEL

Made from selected grade of high speed steel. Heat treated and tempered to Rockwell C 64-66 in their full round form to assure uniform hardness throughout. Overall length 1-7/8", flats ground 7/8" long from solid blanks to plus .001" above center.

Half round cutters are made with 3 tip sizes for general engraving in any material. The cutter No. 345 is quarter round to allow for more chip clearance for fine engraving in non-ferrous metals and soft plastics.

Tips on all cutters are left flat for sharpening to any angle or shape required. When ordering sharpened cutters be sure to follow sharpening instructions on page 13. When angle is not specified cutters will be sharpened at 60° included angle to a sharp point.



310 315 325 345

Unsharpened cutters

H. S. S. Part No.	Cutter	Size at tip	Cobalt Part No.
310	No. 1	1/10"	311
315	No. 2	3/16"	316
325	No. 3	1/4"	–
345	No. 4	3/16"	–

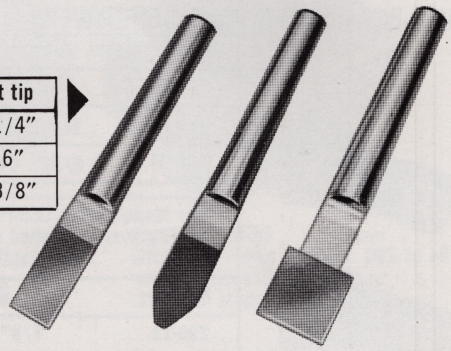
TUNGSTEN CARBIDE

Taper shank Tungsten Carbide Cutters are excellent for engraving in tough plastics such as phenolics, Fibre-glas or any abrasive material and will outlast high speed steel cutters up to 50:1 at maximum cutter speeds.

They are made in 3 sizes, 1/4" and 3/8" wide tip with full flat and 1/4" wide preformed tip with 1/16" flat to save time when grinding small tips or pointed cutters.

Unsharpened cutters

Part No.	Insert	Size at tip
346	1/4" x 1/2"	full 1/4"
347	1/4" x 1/2"	1/16"
348	3/8" x 3/8"	full 3/8"



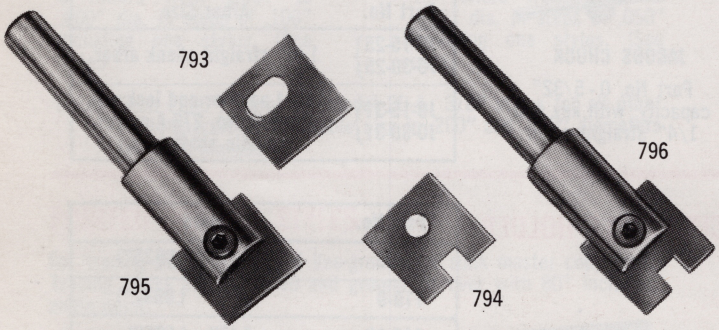
346 347 348

EXTRA WIDE TUNGSTEN CARBIDE CUTTERS WITH ADJUSTABLE BLADES

Cutter Holders with adjustable tungsten carbide blades are available in 2 styles. Tungsten carbide blades are ground and diamond-lapped on both sides, ready for sharpening to size.

Suitable for cutting lines or slots up to 3/4" wide, excellent for profiling or routing in all tough plastic and abrasive materials.

Holders are heat-treated and ground overall; made with 3/16" or 1/4" straight shank and standard taper shank. When using taper shank, insert 1/8" pin in hole through holder and use in place of wrench.

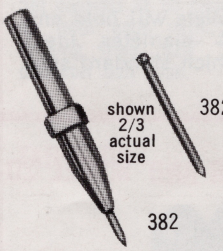


Part No.	Shank	Description
795-19	**3/16"**	Tungsten carbide cutter holder with #793 single edge blade for cutting lines up to 3/4" wide.
795-25	**1/4"**	
795-50	**Taper**	
793	**——**	Single edge tungsten carbide blade for #795 holder only.
796-19	**3/16"**	Tungsten carbide cutter holder with #794 double edge blade for cutting lines up to 1/2" wide.
796-25	**1/4"**	
796-50	**Taper**	
794	**——**	Double edge tungsten carbide blade for #796 holder only.

613

CUTTER WRENCH

No. 613 CUTTER-WRENCH double ended, fits all Preis-Panto taper shank cutters and No.387 collets. Openings are milled and wrench is hardened to last a life-time.

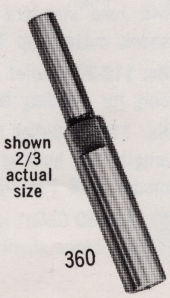


ETCHING POINT

No. 382 Etching Point with taper shank is spring-loaded for scribing through wax coating on steel or glass in preparation for acid etching.

Also ideal in layout work for scribing on any surface through layout ink or dye.

No. 382-A Replacement Point for above.



EXTENSION SLEEVE

No. 360 Extension Sleeve has taper shank and fits into any tapered cutter spindle. Holds all standard taper shank cutters and increases distance from cutter point to spindle nose to 2-1/2" for reaching into deep cavities or recesses where the spindle pulley would otherwise interfere.

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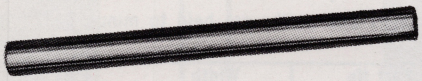
PREIS-PANTO ENGRAVING CUTTERS, STRAIGHT SHANK

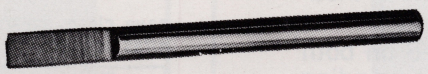
All Straight Shank Cutters are made from the finest grade steels available. High speed steel cutters are heat treated to Rc 64-66, Cobalt Super high speed steel cutters to Rc 66-68 in their full round form to assure uniform hardness throughout.

Body diameters are ground to minus .0005" and flats are then ground from the solid to plus .001" above center and to a length equal to 3 times the body diameter but not over 1/2" long.
Tips on all unsharpened cutters are left blank, ready for sharpening to any angle or shape.

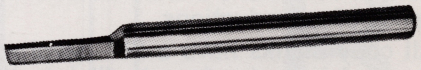


FULL ROUND CUTTER BLANKS in standard and extra long blanks are usefull for a large variety of applications. Use them for special reamers, drills, punches, gage pins or any tool requiring hardened and ground blanks.

1/10" and 1/8" diameter blanks can be used in No. 387 collet (see page 11.)



HALF ROUND CUTTERS for engraving, die cutting, profiling and milling. Fast cutting, easy to resharpen to any shape or angle required.
Use high speed steel cutters for cutting mild steels and other metals.
Use Super high speed steel cutters for tough alloy steels and abrasive castings.
Use Tungsten carbide cutters for abrasive Plastics, cast iron and stainless steels.



QUARTER ROUND CUTTERS same as half round cutters, but ground in quarter to allow for more chip clearance when engraving very fine lines in non-ferrous metals and plastics.

Not recommended for cutting steel

HIGH SPEED STEEL—COBALT SUPER HIGH SPEED STEEL

Straight shank cutters are economical, fast cutting, easy to sharpen. Use on engraving, die-sinking, high speed milling and routing machines in place of expensive multi-flute end mills.

HIGH SPEED STEEL

Diameter & Length	Full Round	Half Round	Quarter Round
1/10" x 1-3/4"	1017-RS	1018-HS	—
1/8" x 1-3/4"	1217-RS	1218-HS	—
5/32" x 1-3/4"	1517-RS	1518-HS	1519-QS
5/32" x 2-1/2"	—	1525-HS	—
3/16" x 1-3/4"	1817-RS	1818-HS	1819-QS
3/16" x 2-1/2"	—	1825-HS	—
1/4" x 2"	—	2520-HS	—
1/4" x 3"	2529-RS	2530-HS	2531-QS

COBALT SUPER HIGH SPEED STEEL

Diameter & Length	Full Round	Half Round
1/8" x 1-3/4"	1216-CR	1219-CH
3/16" x 1-3/4"	1918-CR	1919-CH
3/16" x 2-1/2"	1923-CR	1926-CH
1/4" x 2"	2519-CR	2521-CH
1/4" x 3"	2528-CR	2532-CH
5/16" x 2-1/2"	3124-CR	3125-CH
3/8" x 2-1/2"	3824-CR	3825-CH
3/8" x 4"	3839-CR	3840-CH
1/2" x 2-1/2"	5024-CR	5025-CH
1/2" x 4"	5039-CR	5041-CH

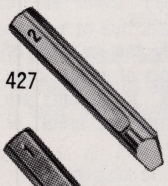
SQUARE NOSE CUTTERS

Sharpened Cylindrical on both ends, from .015" Dia. & up. Length of cutting tip up to 2 x diameter.

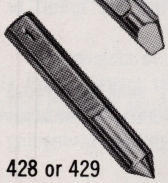
No. 1212-DS
1/8" x 1-3/4" long
High Speed Steel Only

SPECIAL PURPOSE CUTTERS

These cutters are used only with non-rotating spindles. They are intended specifically for cutting on lead casket plates, jewelry or trophy items. See also diamond tipped cutters.



427



428 or 429

HIGH SPEED STEEL

Part No.	Shank Size	Description
427-18	3/16"	Spencerian cutter for simulating hand engraving on lead casket plates.
427-25	1/4"	
428-18	3/16"	120° cone point for drag marking on lead casket plates, jewelry, trophy plates and all soft metals.
428-25	1/4"	

TUNGSTEN CARBIDE

Part No.	Shank Size	Description
429-18T	3/16"	Same as No. 428, but made from tungsten carbide for longer wear.
429-25T	1/4"	

— see also diamond tipped cutters —

HIGH SPEED STEEL

EXTRA LONG CUTTER BLANKS, 6 inches long, full round only.

Diameter & Length	Full Round
1/10" x 6"	1060-RS
1/8" x 6"	1260-RS
5/32" x 6"	1560-RS
3/16" x 6"	1860-RS
1/4" x 6"	2560-RS

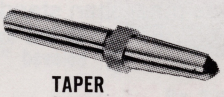
TUNGSTEN CARBIDE

Straight shank solid tungsten carbide cutters; excellent for cutting tough plastics, cast-iron, alloy steels and any abrasive material where high speed cutters usually fail to cut.

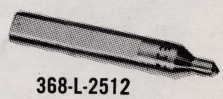
Diameter & Length	Full Round	Half Round	Quarter Round
1/8" x 1-1/2"	1314-RT	1315-HT	—
1/8" x 1-1/2"	double end	1322-HT	—
5/32" x 1-1/2"	1614-RT	1615-HT	1616-QT
3/16" x 1-1/2"	1914-RT	1915-HT	1916-QT
3/16" x 2-1/2"	1924-RT	1925-HT	—
3/16" x 2-1/2"	double end	1922-HT	—
1/4" x 2-1/2"	2524-RT	2525-HT	2526-QT
1/4" x 2"	double end	2522-HT	—

DIAMOND TIPPED CUTTERS

STRAIGHT SHANK



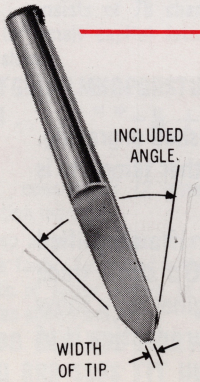
TAPER SHANK



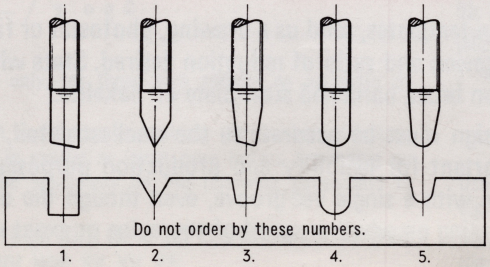
368-L-2512 See Note

Part No.	Shank Size	Description
368-A-18 368-A-25 368-A-50	3/16" 1/4" taper shank	6 flats, 120° included angle for cutting hardened steel; will cut .002" - .003" deep. Use maximum cutter spindle speeds.
368-B-18 368-B-25 368-B-50	3/16" 1/4" taper shank	3 flats, 90° included angle for cutting tough plastics, fibre-glas and other abrasive materials. Use maximum cutter spindle speeds. **NOT SUITABLE FOR CUTTING STEEL.**
368-F-18 368-F-25 368-F-50	3/16" 1/4" taper shank	90° Conical point for scribing fine lines in hardened steel, glass and general layout work. Use with non-rotating spindle only.
368-L-18 368-L-25 368-L-2512 368-L-50	3/16" 1/4" 1/4" taper shank	120° conical point for diamond drag marking on jewelry, trophy plates and other soft metals. Use with non-rotating spindle only.
368-H-18 368-H-25 368-H-50	3/16" 1/4" taper shank	140° conical point for diamond drag marking on hardened steel and tungsten carbide. Also for bold lines on soft metals. Use with non-rotating spindle only.

Note: Tip reduced to 1/8" diameter x 1/4" long for marking close to borders or walls.



HOW TO ORDER SHARPENED CUTTERS



When ordering sharpened cutters or when returning cutters for re-sharpening be sure to specify material to be cut as well as included angle, width or diameter of tip depending on the shape of cutters.

The drawing illustrates the five standard shapes generally used on engraving and die cutting machines.

No. 1: Cylindrical flat cutters, used for profiling and slotting. Specify diameter and length of tip.

No. 2 and 3: Conical pointed or conical flat cutters. Used for most general engraving on all metals and plastics. Specify included angle and width of tip, if any. For proper width of tip consult your pantograph ratio and cutter selector chart. (See back page)

No. 4 and 5: Round nose cutters, used principally for 3 dimensional die work or for cutting round bottom grooves. Specify diameter of round nose, length of tip and included angle, if any.

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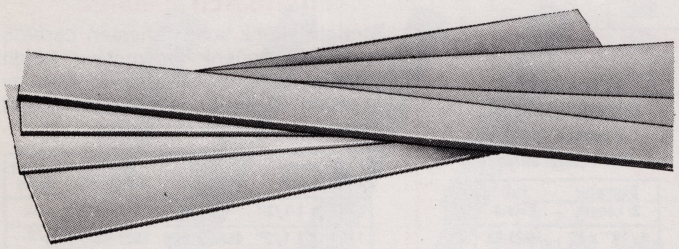
PREIS-PANTO MASTER COPY TYPE GENERAL INFORMATION

All Preis-Panto master copy type illustrated on the following pages is engraved on special engravers' brass, a free cutting extra hard alloy which, under normal conditions should be suitable for many thousands of reproductions.

All copy blanks have a 20° bevel machined on both top and bottom edges to fit into the corresponding dove-tail grooves of your Panto copy holder or copy slides.

For those who have occasions to make their own master letters or special master templates, engravers' brass is also available in plain or beveled brass strips in all standard sizes by 24″ long.



PLAIN BRASS STRIPS, 1/16″ thick, 24″ long

have clean, sheared edges and widths are held to minus 1/32″ from sizes listed.

Width	Part No.	Width	Part No.
13/16″	PL-413	4-9/16″	PL-473
1-5/16″	PL-421	6-1/16″	PL-497
2-5/16″	PL-437	7-1/16″	PL-4112
3-1/16″	PL-449	8-1/16″	PL-4128
3-9/16″	PL-457	10-1/16″	PL-4161
4-1/16″	PL-465	12-1/16″	PL-4293

BEVELED BRASS STRIPS, 24″ long

are machined with a smooth 20° bevel on each edge and widths are held accurate to plus .0, minus .001″ to fit into the dove-tail grooves of your Preis-Panto copy tables.

Width	Thickness	Part No.	Width	Thickness	Part No.
3/4″	1/16″	BV-412	2-1/4″	1/16″	BV-436
3/4″	3/32″	BV-612	2-1/4″	5/32″	BV-1036
1-1/4″	1/16″	BV-420	3″	1/16″	BV-448
1-1/4″	5/64″	BV-520	3-1/2″	1/16″	BV-456
1-1/4″	9/64″	BV-920	4″	1/16″	BV-464
			4-1/2″	1/16″	BV-472

SELECTION OF MASTER COPY TYPE

The most economical way to purchase master copy type is in the standard fonts listed on page 15. These fonts are made in several combinations depending on the style of letter and the requirement of the individual user. For combinations other than standard fonts, prices will be quoted upon request.

HOW TO SELECT

Select the particular style of master copy type required. All specimens shown are actual photographs of engraved name plates.

Select the correct size or height of letters and be sure that the pantograph range of your engraver covers the various sizes of letters to be engraved. The best pantograph range on most engraving machines is between 2:1 and 6:1 ratio of reduction. For soft and free cutting materials, and large letters, the lower ranges are most practical and economical; for hard materials, especially steel, and small letters, the higher ranges will result in cleaner engraving.

Preis-Panto Master Copy Type is engraved on the various sizes or heights of copy blanks most suitable for the particular style. Copy holder units or single copy holder slides to fit your Preis-Panto Engraver are available in all sizes illustrated on page 8.

HOW TO ORDER

When ordering Master Copy Type, be sure to specify font assortment required. Order by style number, give height of letters and size of copy blanks, and order only in sizes and combinations shown in price list. Height of letters given is measured from center of top stroke to center of bottom stroke; overall height of beveled brass blank includes bevel on both sides.

When ordering in any other assortment, be sure to specify the quantity of each character required. Due to the numerous styles and sizes of master copy type available it is impossible to maintain a complete stock. Most fonts are engraved upon receipt of your order and cannot be returned for credit or replacement.

EXAMPLE FOR ORDERING MASTER COPY TYPE.

Required: One font master copy type, style No. 206, having sunk vee-groove lines. An assortment of large and small letters, numerals, punctuation marks, special characters and spacers with 3/4″ high letters reading right, engraved on 1-1/4″ beveled brass blanks.

Order should read: One 6A font, style No. 206-VC, 3/4″ high on 1-1/4″ blanks, sunk, reading right.

SPECIAL MASTER TEMPLATES

For special master templates, trade marks or combination templates, send us a drawing, photostat or finished engraving. Specify size of template required, or actual size of engraving and ratio of reduction desired. State whether template is to be sunk or raised, reading right or reversed, engraved on brass, hardened steel plate or bakelite.

On trade marks or trade names, state whether the design must be accurate to the smallest detail, or if a simplified design, following the principal contours, is more important for legibility and production purposes. On small trade names and signatures it is advisable to make a template with a single vee-groove, even though the original may show shaded lettering. On larger templates it is optional, depending on whether speed of engraving or exact reproduction is of more importance.

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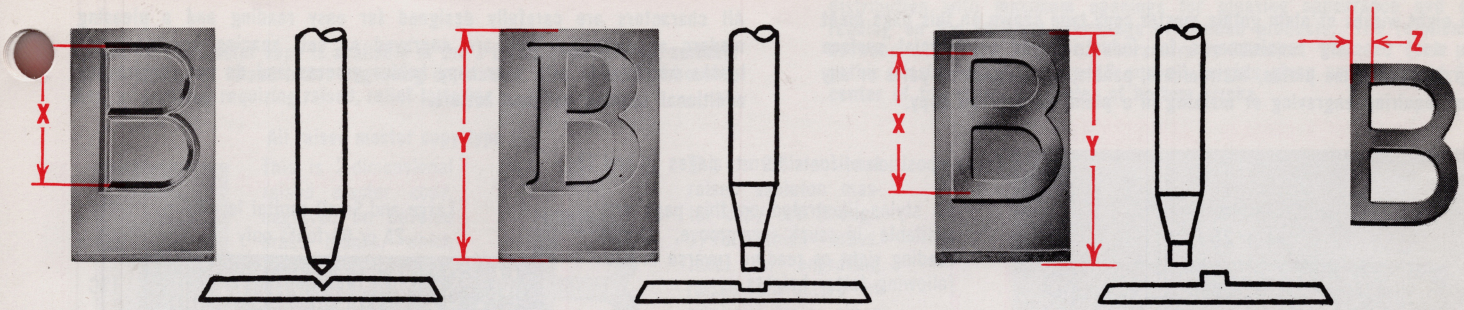
PREIS-PANTO MASTER COPY TYPE

STANDARD FORMS AND FONT COMPOSITIONS



SUNK VEE-GROOVE, used on all single line lettering (example No. 4S, 20, 64 etc.) and all styles where the letter V follows the style number (example 76-VC, 205-V, 206-VC, etc.) Vee-grooves are cut with 85° included angle, approximately 1/32" deep depending on the size of letter. Master letters cut with vee-grooves last longer than any other groove when used with a pointed tracing stylus sharpened at 80°-85° included angle (see tracing styles on page 10).

Any desired stroke or width of line can be engraved by simply tipping the cutter point off to the proper width or flat. See also "Pantograph ratio and cutter selector chart" on back page.

SUNK FLAT-BOTTOM GROOVE, used on all styles where a letter F follows the style number (example No. 80-FC, 204-F, 205-FC etc.). These grooves require a cylindrical tracing stylus of the proper diameter in place of the pointed tracing stylus (see tracing styles on page 10).The width of the grooves varies to suit the style and size of master letter.

RAISED (relief) AND SKELETON MASTER LETTERS

Used principally for engraving raised lettering on dies, molds, and stamps; also for name plates or signs requiring raised lettering. The shank or face of the letter can be cut to any desired shape or size by grinding the cutter to the required angle and selecting a cylindrical tracing stylus with the correct tip diameter (see tracing styles on page 10).

are reversible and may be arranged in any position by cementing or soldering on a back plate.

Plastic molded, raised master copy type for use on 3-dimensional pantographs illustrated on page 17.

X — Height of letter from center to center of stroke

Y — Overall height of beveled brass blank

Z — Width of stroke on raised and skeleton letters

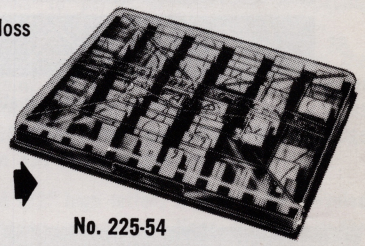
TYPE STORAGE TRAYS

No. 125-48

Will keep your master copy type in order for easy selection and prevent loss of individual characters.

No. 125-48 . . . Wooden box with sliding cover and 48 plastic compartments. Will hold complete fonts engraved on ¾" or 1¼" beveled blanks.
Size — 14" x 14" x 1¼" high.

No. 225-54 . . . Plastic tray with clear plastic cover. Has 42 large and 12 small compartments. Will hold complete fonts engraved on 2¼" beveled blanks.
Size — 13½" x 16" x 2" high.



No. 225-54

COMPOSITION OF FONTS (FONT SIZES)

MASTER COPY TYPE is available in several different combinations known as Fonts. Each font consists of a certain number or combination of characters to suit most requirements. All styles contain the exact number of letters and numerals as shown in the various fonts below.
Punctuation marks and special characters vary with some styles depending upon their usefulness with certain styles of letters.

1A FONT...

consists of 54 characters, one of each only as shown below. Suitable only for engraving single characters (not for names or word combinations).

ABCDEFGHIJKLMNOPQRSTUVWXYZ 1234567890 . , : ; ' " " - & + — / x ° ₀ AC C

2A FONT...

consists of 78 characters including capital letters and lower case letters (or small capital letters depending on style of letter), one of each only as shown.

ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 1234 567890 . , : ; ' " "- & + — / x ° ₀ C

3A FONT...

consists of 72 letters only, for those who require no numerals or punctuation marks.
Ideal also as an addition to a 4A or 6A font to increase the number of letters in those fonts. Furnished either in capital or lower case letters depending on the style of letter shown in type specimens on the following pages and in quantities shown below.

AAA BBB CCC DDD EEEE FFF GGG HHH III JJ KK LLL MMM NNNN OOO PPP QQ RRR SSSS TTT UU VV WW XX YY ZZ

4A FONT...

recommended for general engraving of names plates, signs, panels etc., consists of 78 capital letters, 30 numerals, 15 punctuation marks, 10 special characters and an assortment of 60 spacers, total 193 pieces as shown below.

AAAA BBB CCC DDD EEEEEE FFF GGG HHH III JJ KKK LLLL MMM NNNN OOO PPP Q RRR SSSS TTTT UUU VV WW XX YY ZZ 111 222 333 444 555 666 777 888 999 000 ..... ,,, : ; ' " "--& + — / x ° ₀ AC C

6A FONT...

for general engraving with capital letters and lower case letters, contains 237 pieces, consisting of 52 capital letters, 72 lower case letters (or small capital letters depending on style of letter), 30 numerals, 15 punctuation marks, 8 special characters and 60 spacers as follows:

AA BB CC DD EE FF GG HH II JJ KK LL MM NN OO PP QQ RR SS TT UU VV WW XX YY ZZ aaaa bbb ccc ddd eeee fff ggg hhh iii jj kk lll mmm nnnn ooo ppp qq rrr sss ttt uu vv ww xx yy zz 111 222 333 444 555 666 777 888 999 000 ..... ,,, : ; ' " "-- & + — / x • ₀ C

2B FONT...

consists of 48 letters and 2 periods as shown.
Used principally for engraving initials on such items as jewelry, silverware, cigarette lighters, belt buckles etc.

AA BB CC DD EE FF GG HH II JJ KK LL MM NN OO PP Q RR SS TT UU VV WW X Y Z ..

PREIS-PANTO MASTER COPY TYPE

PLAIN GOTHIC, SUNK VEE-GROVE

The eight widths of plain gothic master copy type shown on this page meet the most exacting requirements for industrial and commercial surface engraving on name plates, instruments, panels, tools, machine parts or any item requiring engraving or marking in a plain, easily read copy.

All characters are carefully designed for easy reading and a pleasing modern appearance. They are engraved on self spacing beveled brass blanks which slide into your copy holder grooves and do not require any additional spacing between letters.

For composition of fonts turn to pages 14 and 15.

STYLES NO. 1S through 8S

Capital letters only
1A, 3A, 4A or **2B** Fonts

1S D. A. BERLINGER

2S R. O. ANGEVINE

3S S. G. HEILNER

4S M. Q. BOLTEN

5S D. K. PAULI

6S C. P. RYAN

7S I. T. RAE

8S F. GAY

For lower case letters to match see page 19, styles No. 221 to 225.

All styles illustrated on this page are available in sunk vee-groove, either reading right or reading reverse in the following letter heights.

1/4", 5/16", 3/8" or 1/2" high letters on 3/4" high beveled brass blanks.

1/4", 5/16", 3/8", 1/2", 3/4" or 1" high letters on 1-1/4" high beveled brass blanks.

1", 1-1/2" or 2" high letters on 2-1/4" high beveled brass blanks.

2", or 2-1/2" high letters on 3-1/2" high beveled brass blanks.

2-1/2", 3", or 4" high letters on 4-1/2" high beveled brass blanks.

6" high letters on 7" plain Bakelite blanks.

STYLES NO. 1SC through 8SC

Large and Small capital letters
2A or **6A** fonts only

M. S. VANDERHOFFER 1SC

J. N. BRADSTREET 2SC

E. X. RANDOLPH 3SC

B. U. DOMINGER 4SC

M. Z. FARCUS 5SC

F. L. ADAMS 6SC

H. DOWD 7SC

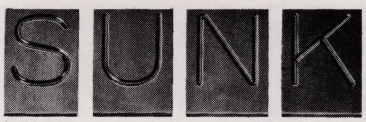
V. CARD 8SC

For lower case letters to match see page 19, styles No. 221 to 225.

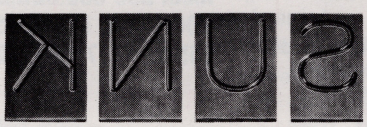
STENCIL MASTER LETTERS

ABCDEFGHIJK
LMNOPQRSTU
VWXYZ 12345
67890 “” .,:;’-
&+—/×°½¢AC

Plain gothic master copy type on this page is also available for cutting stencils with the stays or stops positioned exactly as shown above. Length of stays equals 10% of height of letter when engraved with a cutter tip of same percentage. For outline stencil copy see page 19. For stencil letters with stops located other than shown submit print for quotation.



Sunk Vee-Groove,
Reading Right (forward)



Sunk Vee-Groove,
Reading Reverse (backward)

PROPORTIONS OF WIDTH TO HEIGHT OF LETTERS

For your convenience we list below the width in comparison to the height of all sunk master copy on this page and all raised master copy on page 17. All dimensions apply to the letter **N** measured from center to center of stroke.

Letter Description	Style Numbers	Percentage of Width to Height
Extra Condensed	1S, 1SC, 1SR	35%
Condensed	2S, 2SC, 2SR, 2SM	45%
Semi-Condensed	3S, 3SC, 3SR,	54%
NORMAL	4S, 4SC, 4SR, 4SM	63%
Semi-Extended	5S, 5SC, 5SR	83%
Extended	6S, 6SC, 6SR, 6SM	100%
Extra-Extended	7S, 7SC, 7SM	125%
Maximum Extended	8S, 8SC,	150%

BRASS MASTER COPY DIALS

Standard master copy dials are 10" in diameter, 1/8" thick and mount on the No. 317 copy dial holder, shown on page 6. All copy dials have an index notch centered with each letter and standard dials are furnished as illustrated.

Dial No.
317-4S

Part No. 317-4S — style No. 4S, 3/4" letters sunk vee-groove, total 41 characters.

Also available in styles and sizes as follows.
3/8" high letters in styles No. 1S through 8S
1/2" high letters in styles No. 1S through 6S
3/4" high letters in styles No. 1S through 4S

Part No. 317-2S — style No. 2S, 3/4" letters, sunk vee-groove, total 53 characters.

Also available in styles and sizes as follows.
3/8" high letters in styles No. 1S through 6S
1/2" high letters in styles No. 1S through 5S
3/4" high letters in styles No. 1S through 3S

Dial No.
317-2S

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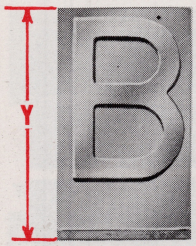
PREIS-PANTO MASTER COPY TYPE

PLAIN GOTHIC, RAISED (relief)

Raised (relief) master copy is available in the 3 forms shown below, suitable for all phases of raised letter engraving on stamps, dies, molds, embossing dies, or anything requiring raised, relief lettering.

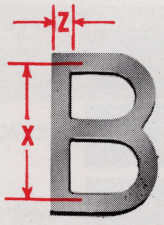
The characters are designed with well proportioned contours and space distribution with maximum openings for pleasing appearance and easy reading on the smallest stampings or molded products. The relationship between width and height of characters is identical with the sunk plain gothic master copy on page 16 and all heights given are measured from center of top stroke to center of bottom stroke.

All raised master copy type is



This is 2-dimensional raised master copy, engraved on beveled brass blanks, which slide into the dove-tail grooves of your standard copy holder. It is the most practical form of raised copy for engraving single letters, names, or any word combinations on single or multiple straight line dies or stamps, and is suitable for any Pantograph Engraving machine.

All characters are engraved with straight walls for use with cylindrical tracing styles (see page 10). Raised letters with any side angle can be engraved by grinding the cutter to the desired angle and the face can be varied by changing the diameter of the cutter or tracing stylus.



This is 2-dimensional raised skeleton master copy cut through 1/16" thick brass. Ideal for engraving raised characters in semi-circular or other odd shapes when a more flexible arrangement is required.

Simply solder or cement the characters onto a suitable back plate in the shape required and use in the same manner as the standard raised copy blanks. Skeleton copy can be used for either reading right or reverse by just turning the letters over.

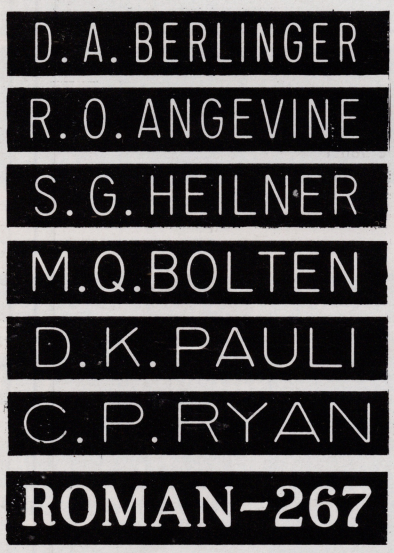
X — Height of letter from center to center of stroke

Y — Overall height of beveled brass blank

Z — Width of stroke on raised and skeleton letters

READING RIGHT (FORWARD)

READING REVERSE (BACKWARD)



Two-dimensional raised master copy and skeleton copy is available in 1A, 3A and 4A fonts, in styles No. 1SR through 6SR in the following sizes:

1/2" high letters
on 3/4" beveled brass blanks.

1/2", 3/4" or 1" high letters
on 1-1/4" beveled brass blanks.

1" or 1-1/2" high letters
on 2-1/4" beveled brass blanks.

Note: Skeleton letters are cut through the brass plate and therefore have no base or copy blank.

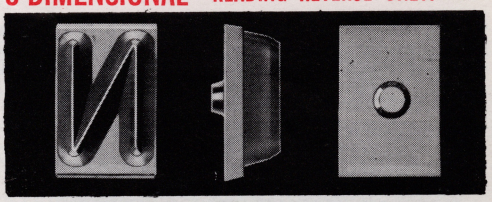
The width of stroke varies with the height of letter and unless otherwise specified will be standard as follows:
In style 1SR thru 6SR:

.062" wide stroke on 1/2" high letters
.080" wide stroke on 3/4" high letters
.100" wide stroke on 1" high letters
.125" wide stroke on 1-1/2" high letters

This is style No. 4SR, 2-dimensional, raised master copy type

Be sure to specify: Font Size, Style Number, height of letter, height of blank, reading right or reading reverse. For skeleton letters add "SKELETON" to the style number.

3-DIMENSIONAL READING REVERSE ONLY.



FRONT SIDE BACK

This is 3-dimensional raised master copy (patented), suitable only for use on 3-dimensional Engraving and Die Cutting machines. With this master copy type hand finishing is entirely eliminated and finished stamps with sharp inside corners can be cut in a minimum of time. Side wall angles can be varied from 35° to 55° by using a cutter and tracing stylus with identical side angles. For tracing styles see page 10.

3-dimensional raised master copy type is molded from durable plastic material and with ordinary care will last a long time. The characters are molded with double angles, the lower part with 20° side angle to permit close spacing between letters and the upper part with 35° side angle for added strength. The 3 heights of letters listed below are molded on 3 different size blanks to permit a minimum of spacing between lines.

All characters have a stud centrally located on the back for aligning them in circles, curves or irregular shaped contour lines. Simply cut a groove into a brass or dow metal plate, apply cement or double edge adhesive tape and press letters into place.

The 1/4" and 1/2" high letters also have two beveled edges for setting up straight lines of copy in the dove-tail grooves of the No. 3225 or No. 3250 copy holder tables illustrated on page 8. The 5/32" high letters are not furnished with beveled edges.

A set of 7 fractions, from 1/8 to 7/8 in steps of 1/8" are available in styles No. 2SM and 4SM, 1/2" high only.

Made only in styles and sizes listed here	Style No.	Height of Letters
R. O. ANGEVINE	2SM	1/4" or 1/2"
M. Q. BOLTEN	4SM	1/4" or 1/2"
C. P. RYAN	6SM	5/32", 1/4" or 1/2"
I. T. RAE	7SM	5/32", 1/4" or 1/2"

This is style No. 4SM, 3-dimensional raised master copy type.

Sold in 4A fonts or individual characters only.

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PREIS-PANTO MASTER COPY TYPE

DISTINCTIVE TYPE FACES — MADE TO ORDER ONLY

The illustrations below are actual photographs of engraved name plates, showing the contours of the various styles. In actual engraving practice the letters can be cut with very fine or heavy lines depending on the cutter tip and depth of cut taken.

This page illustrates a selection of type faces generally recommended for engraving of individual names on personal items such as name plates, signs, jewelry, souvenirs and gift items where a departure from the plain gothic style is desired and production speed is not essential.

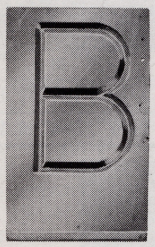
7	William Christopher
8	Henry Goldinger
9	David Vecchio
10	Otto Turner
19	HERMAN COURTNEY
20	OSCAR ACKERMAN
21	HARRY GARDNER
22	JACK BARTEN
34	RIP WINKLE
36	Eric Clauberg
60	Albert Z. Fink
64	Donald Aster

69F	R. B. Louis
76V	Clark Angelo
80F	Bert Walker
91V	Fred Hogman
202	B. D. K.
202C	Arnold H. Pomery
203VC	Mickey Livingston
203FC	Charles Birmingham
204V	MACK HOPKINS
204VC	STANLEY WESTROPE
204F	JOHN TRAVERS
204FC	RICHARD FRANKLIN

205V	J. B. McGOAN
205VC	CLINT RUNYON
205F	JIM COLFAX
205FC	PERRY WINKLE
206V	WILLY BUSH
206VC	JAMES GOMEX
206F	MAX SINGER
206FC	FRANK HODGE
207V	G. B. P.
207F	R. A. M.
208	FRANKLYN B WESTINGHOUSE
208C	Franklyn B Westinghouse

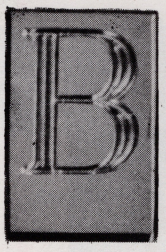
No. 19 to 22 are also available without small letters. For font sizes see price list.

SINGLE LINE VEE-GROOVE



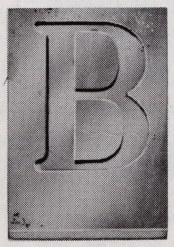
All type faces with no letter designation after style number are engraved with single line vee-groove.

OUTLINE VEE-GROOVE



All type faces with letter V or VC following style number are engraved with outline vee-grooves and additional vee-grooves through center wherever possible.

FLAT BOTTOM GROOVE



All type faces with letter F or FC following style number are engraved with square bottom groove and require cylindrical tracing styles.

Style No. 7 through **No. 36** available in 3/8", 1/2", 3/4" and 1" high letters.
Style No. 60 through **No. 91V** available in 1/2", 3/4" and 1" high letters.
Style No. 202 and **No. 202-C** available in 1/2", 3/4", 1", 1-1/2" and 2" high letters.
Style No. 203-VC through **No. 208-C** available in 1/2", 3/4", 1", 1-1/2", 2", 2-1/2", 3", 4" and 6" high letters.

All except the 6" high letters are engraved on beveled brass blanks to fit into the dove-tail grooves of your Preis-Panto copy holder table. The 6" high letters are engraved on 7" or 9" square edge Bakelite blanks only.

For font sizes, height of letters and copy blank of each individual style illustrated consult price list.

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PREIS-PANTO MASTER COPY TYPE

SPECIAL TYPE FACES — MADE TO ORDER ONLY

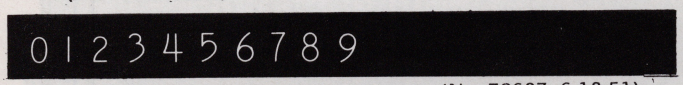
All Master copy type on this page is made to order only in sunk, reading right or reading reverse up to the maximum size listed after each specimen. 1A fonts include one of each character shown.

***COMPARABLE TYPE FACES** (see type marked with asterisk)

211 INCLINED GOTHIC, single vee groove. Maximum size 3"

TYPE FACES TO MILITARY SPECIFICATIONS

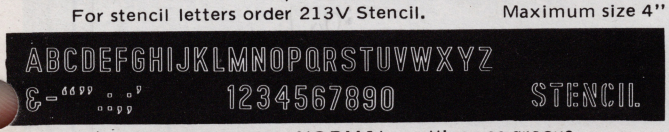
212 AIRFORCE-NAVY DESIGN STANDARD, single vee groove. (MS-33558-ASG) Maximum size 3"



240 BUREAU OF SHIPS, single vee groove. (No. 73687, 6-18-51) Numbers only, (Use with letters from style No. 212). Maximum size 3"

OPEN FACE GOTHIC

213V OPEN FACE GOTHIC, CONDENSED, outline vee groove. For stencil letters order 213V Stencil. Maximum size 4"



214V OPEN FACE GOTHIC, NORMAL, outline vee groove. For stencil letters order 214V Stencil. Maximum size 4"

215V OPEN FACE GOTHIC, EXTENDED, outline vee groove. For stencil letters order 215V Stencil. Maximum size 4"

FOREIGN TYPE FACES

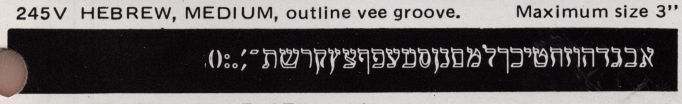
216 GREK CAPITALS, single vee groove. Maximum size 1-½"

217 GREEK LOWER CASE, single vee groove. Maximum size 1-½"

218V GREEK CAPITALS, outline vee groove. 218F....same style with flat-bottom groove. Maximum size 3"

219 RUSSIAN CAPITALS, single vee groove. Maximum size 1-½"

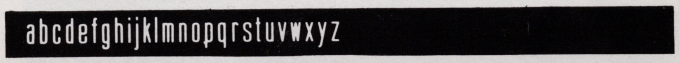
245V HEBREW, MEDIUM, outline vee groove. Maximum size 3"



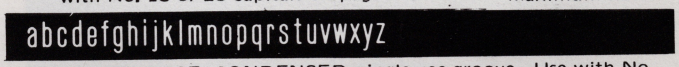
246V HEBREW, CONDENSED, outline vee groove. Maximum size 3"

220 ROMAN NUMERALS, single vee groove. Maximum size 1-½

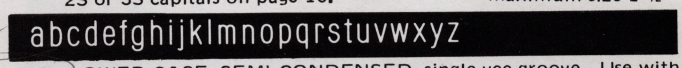
LOWER CASE LETTERS



221 LOWER CASE, EXTRA CONDENSED, single vee groove. Use with No. 1S or 2S capitals on page 16. Maximum size 3"

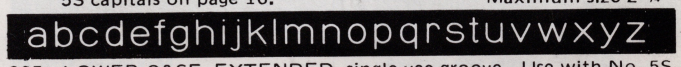


222 LOWER CASE, CONDENSED, single vee groove. Use with No. 2S or 3S capitals on page 16. Maximum size 1-½"

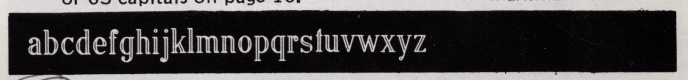


223 LOWER CASE, SEMI-CONDENSED, single vee groove. Use with No. 3S or 4S capitals on page 16. Maximum size 3"

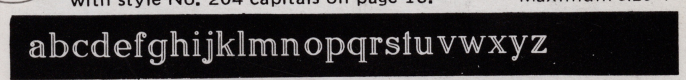
224 LOWER CASE, NORMAL, single vee groove. Use with 3S, 4S,or 5S capitals on page 16. Maximum size 2-¼"



225 LOWER CASE, EXTENDED, single vee groove. Use with No. 5S or 6S capitals on page 16. Maximum size 1-½"

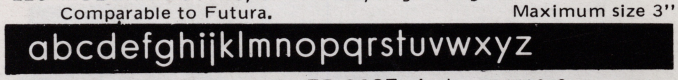


251V LOWER CASE, ROMAN CONDENSED, outline vee groove. Use with style No. 204 capitals on page 18. Maximum size 4"

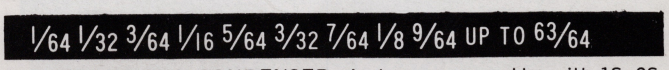


252V LOWER CASE, ROMAN MEDIUM, outline vee groove. Use with style No. 205 capitals on page 18. Maximum size 4"

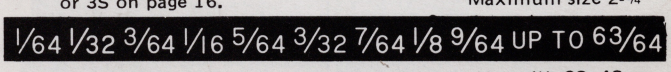
*226 MODERN GOTHIC, CAPITALS, single vee groove. Comparable to Futura. Maximum size 3"



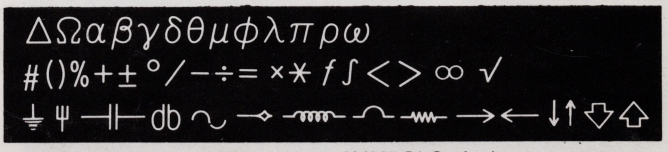
*227 MODERN GOTHIC, LOWER CASE, single vee groove. Comparable to Futura. Maximum size 3"



228 FRACTIONS, CONDENSED, single vee groove. Use with 1S, 2S, or 3S on page 16. Maximum size 2-¼"



229 FRACTIONS, NORMAL, single vee groove. Use with 3S, 4S,or 5S on page 16. Maximum size 2-¼"



230 ELECTRICAL-TECHNICAL SYMBOLS, single vee groove. Maximum size 1-½"

PREIS-PANTO MASTER COPY TYPE

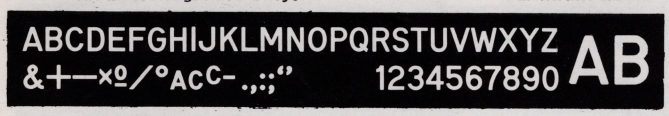
SPECIAL TYPE FACES MADE TO ORDER ONLY

All Master copy type on this page is made to order only in sunk, reading right or reading reverse up to the maximum size listed after each specimen. 1A fonts include one of each character shown.

***COMPARABLE TYPE FACES** (use type marked with asterisk)

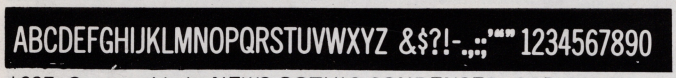
SQUARE CORNER GOTHIC

232F SQUARE CORNER GOTHIC, CONDENSED, flat-bottom groove only. Maximum size 3"

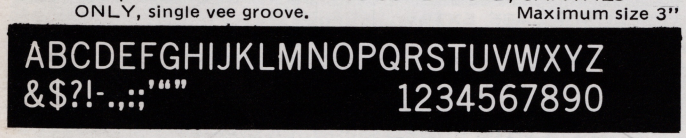


234F SQUARE CORNER GOTHIC, NORMAL, flat-bottom groove only. Maximum size 3"

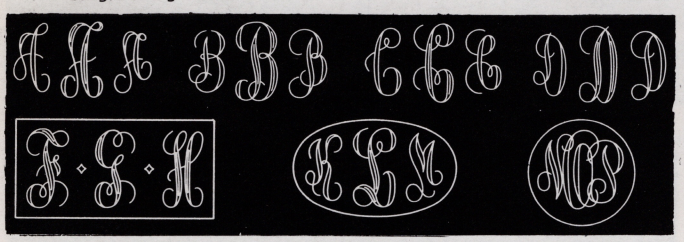
236F SQUARE CORNER GOTHIC, EXTENDED, flat-bottom groove only. Maximum size 3"



*237 Comparable to NEWS GOTHIC CONDENSED, CAPITALS ONLY, single vee groove. Maximum size 3"

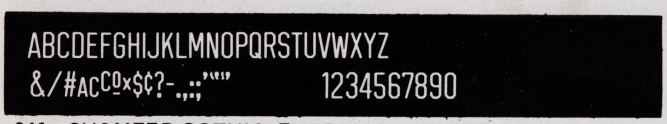


*238 Comparable to NEWS GOTHIC MEDIUM, CAPITALS ONLY, Single vee groove. Maximum size 3"



239V MONOGRAM SCRIPT, for initials or monograms. Maximum size 4"

CHAMFER GOTHIC

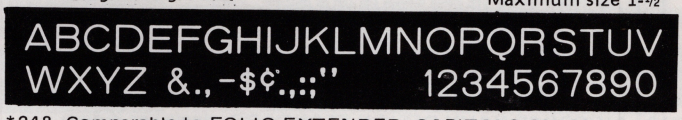


241 CHAMFER GOTHIC, EXTRA CONDENSED, Single vee-groove. Maximum size 6"

242 CHAMFER GOTHIC, CONDENSED, single vee groove. Maximum size 6"

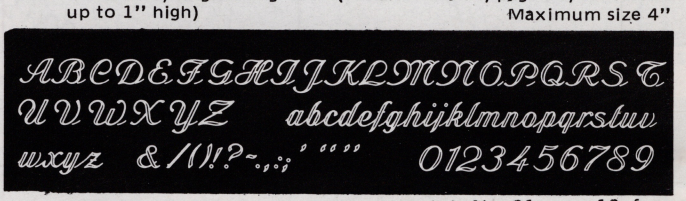
244 CHAMFER GOTHIC, NORMAL, single vee groove. Maximum size 6"

*247 Comparable to FOLIO CONDENSED, CAPITALS ONLY, Single vee groove. Maximum size 1-½"



*248 Comparable to FOLIO EXTENDED, CAPITALS ONLY, Single vee groove. Maximum size 1-½"

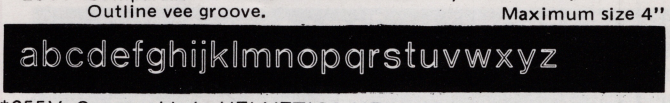
249 CURSIVE, single vee groove (see also No. 64, page 18, for letters up to 1" high) Maximum size 4"



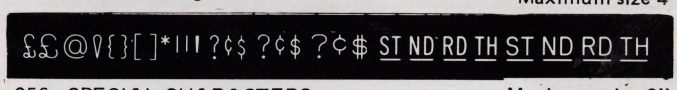
250V SCRIPT, outline vee grooves (see also style No. 91, page 18, for letters up to 1" high) Maximum size 4"

253 EXTRA CONDENSED NUMERALS, outline vee groove. Maximum size 6"

*254V Comparable to HELVETICA MEDIUM, CAPITALS, Outline vee groove. Maximum size 4"



*255V Comparable to HELVETICA MEDIUM, LOWER CASE, Outline vee groove. Maximum size 4"



256 SPECIAL CHARACTERS Maximum size 3"

*258V Comparable to CRAW CLARENDON, Outline vee-groove. Maximum size 2"

*259V Comparable to VENUS BOLD, Outline vee-groove. Maximum size 2"

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PREIS-PANTO MASTER COPY TYPE

SPECIAL TYPE FACES MADE TO ORDER ONLY

All Master copy type on this page is made to order only in sunk, reading right or reading reverse up to the maximum size listed after each specimen. 1A fonts include one of each character shown.

***COMPARABLE TYPE FACES** (use type marked with asterisk)

ABCDEFGHIJKLMNOPQRSTUVW
XYZ 1234567890&!?$()-:.,;"'"

* 259F Comparable to VENUS BOLD, Flat Bottom Groove — Maximum size 2"

ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890 &ACC-%o$?()!.:,;''

* 260V Comparable to MICRO GRAMMA, Normal Capital, Single Vee-groove — Maximum size 4"

abcdefghijklmnopqrstuvwxyz

* 262V Comparable to MICRO GRAMMA, Lower Case, Single Vee-groove — Maximum size 4"

ABCDEFGHIJKLMNOPQRST
UVWXYZ 1234567890
&ACC-%o$?()!.:,;''

* 261V Comparable to MICRO GRAMMA, Extended Capitals, Single Vee-groove — Maximum size 4"

abcdefghijklmnopqrstuvwxyz

* 263V Comparable to MICRO GRAMMA, Extended Lower Case, Single Vee-groove — Maximum size 4"

ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890 &-!?$().:,;""

* 264F Comparable to OPTIMA CAPITALS, Flat Bottom Groove — Maximum size 3"

abcdefghijklmnopqrstuvwxyz

* 265F Comparable to OPTIMA LOWER CASE, Flat Bottom Groove — Maximum size 3"

ABCDEFGHIJKLMNOPQRSTUVWXYZ

* 266V Comparable to EXTRA CONDENSED ROMAN, Outline Vee-groove — Maximum size 6"

271V ARABIC, single vee groove, maximum size 2".

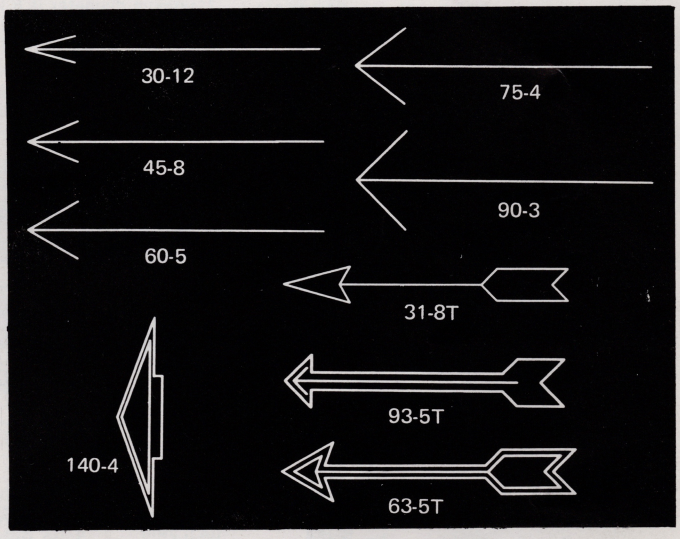
ASK FOR BULLETIN ILLUSTRATING HUNDREDS OF DESIGNS.

ASK FOR BULLETIN ILLUSTRATING HUNDREDS OF DESIGNS.

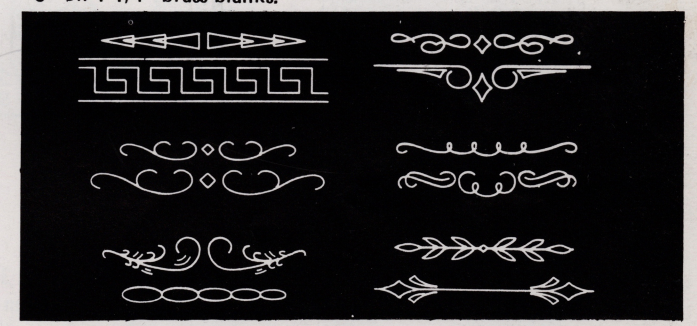
SPECIAL MASTER TEMPLATES

and miscellaneous items

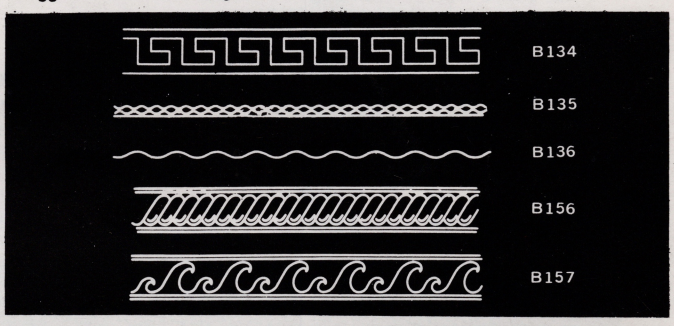
ASSORTED ARROWS (See Price List for Lengths)



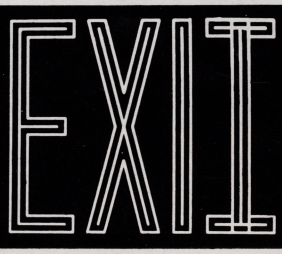
UNDERLINES & DIVIDERS 90-100 ORNAMENTAL DESIGN, 3" on 1-1/4" brass blanks.



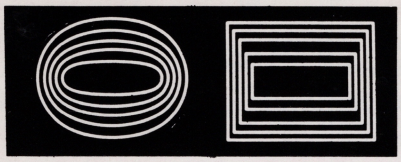
BORDER DESIGNS Specify length and number of sections or wriggles. Maximum length 24" on beveled brass strip.



S-158
Exit template see price list for sizes, master template may be used reading right or reading reverse.



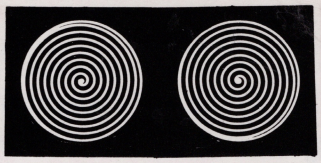
PREIS-PANTO SPECIAL MASTER TEMPLATES *and miscellaneous items*



NO. O-67
FIVE OVALS

NO. R-68
FIVE RECTANGLES

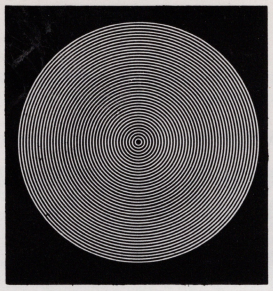
Approximate width-length proportions are 1 to 3, 1 to 2, 2 to 3, 4 to 5 and 5 to 6.



NO. SL-65
LEFT SPIRAL

NO. SR-66
RIGHT SPIRAL

Maximum diameter is 6 inches with a developed pitch of 11/32".

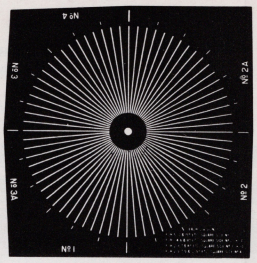


CIRCLE MASTER TEMPLATE
with circles 1/16" apart.

Part No. 47-6 . . . 47 circles to 6" diameter, engraved on 7" square brass plate.

Part No. 71-9 . . . 71 circles to 9" diameter, engraved on 10" square brass plate.

Other sizes made to order.



GRADUATED CIRCULAR TEMPLATE

For engraving radial lines on instrument panels, dials, switch plates, etc.

Part No. 72-5 . . . 72 lines to 6" diameter, 5° apart, engraved on 7" square brass plate.

Part No. 72-25 . . . 72 lines to 6" diameter, 5° apart, with 3 side edges machined at 1°, 2° and 2-1/2° angles for engraving all radial lines 1° or 2-1/2° apart by squaring the template with the correct side edge.

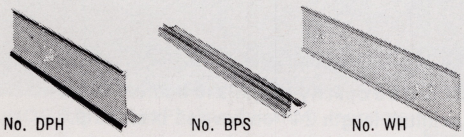
LAMINATED PHENOLIC PLASTIC MATERIAL (Lamicoid)

in strips or cut plates, plain or beveled.

SURFACE COLOR AND NUMBER		CORE	SURFACE FINISH
Black	No. 7025	White	Glossy or Satin
White	No. 7031	Black	Satin Only
Navy Gray	No. 7315	Black	Satin Only
Navy Gray	No. 7314	White	Satin Only
Aluminum Gray	No. 7306	White	Satin Only
Scarlet (Fabric)	No. 7320	White	Satin Only
Blue (Fabric)	No. 7310	White	Satin Only
Green (Fabric)	No. 7312	White	Satin Only
Yellow	No. 7317	Black	Satin Only
Mahogany	No. 7022	White	Glossy or Satin
Walnut	No. 7020	White	Glossy or Satin

for sizes and prices see price list No. 74

ANODIZED ALUMINUM NAME PLATE HOLDERS



No. DPH

No. BPS

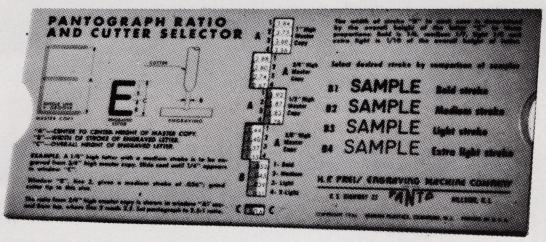
No. WH

Made in 3 shapes shown, in gold or silver satin finish, 8" or 10" long.

No. DPH for 1/16" x 2" wide name plates
No. BPS for 1/16" thick plates, any width
No. WH for 1/16" x 2" wide name plates

for sizes and prices see price list No. 74

PANTOGRAPH RATIO AND CUTTER SELECTOR

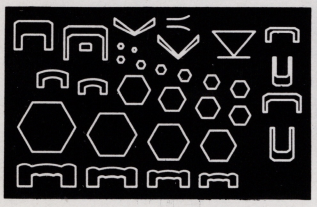


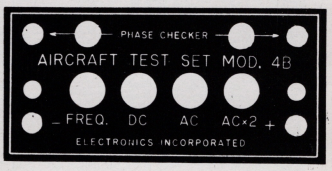
This 3" x 7" pocket calculator instantly shows the engraver the correct pantograph setting and width of cutter tip for engraving letters with a specified overall height from single line master copy.

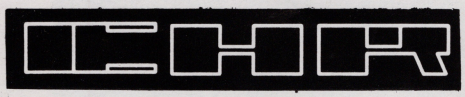
It covers 7 sizes of master copy from 3/8" to 3" high, for engraving 34 sizes of letters from 1/16" to 3 1/2" overall height with bold, medium, light or extra light strokes. The calculator eliminates tedious computations and assures accurate duplication on repeat orders.

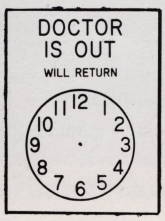
SPECIAL MASTER TEMPLATES

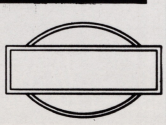
Made to order only. See page 14.

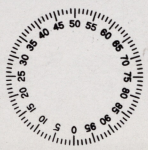


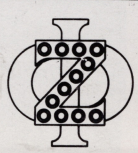












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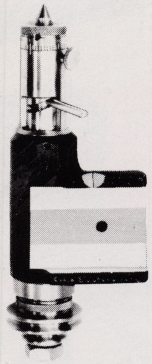
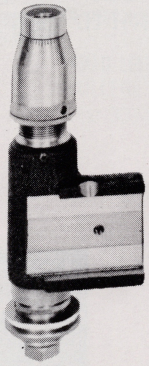
INTERCHANGEABLE CUTTER HEADS

For all methods of engraving and marking

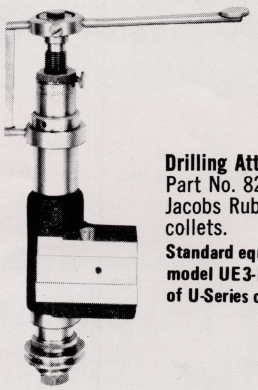
for models UE-3, UE3-DR and UE3-PC



Rotary Engraving Spindle Unit
Part No. 270-279AX for Preis-Panto collets or Part No. 270-922J for Jacobs Rubber-Flex Collets.
Standard equipment with model UE-3 on page 4 of U-Series catalog.



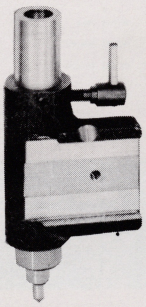
Rotary Engraving Spindle Unit with pneumatic depth control
Part No. 944-279AX for Preis-Panto collets or Part No. 944-922J for Jacobs Rubber-Flex collets. Requires also No. 918-A pneumatic unit.
Standard equipment with model UE3-PC on page 5 of U-Series catalog.



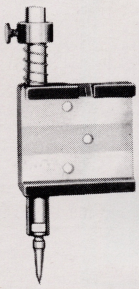
Drilling Attachment
Part No. 820-922J for Jacobs Rubber-Flex collets.
Standard equipment with model UE3-DR on page 5 of U-Series catalog.

cutter heads for all models

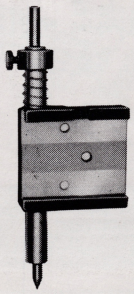
Diamond-Drag Marking Unit
Part No. 130-427 with manual pressure control.
Standard equipment with model UM on page 6 of U-Series catalog.



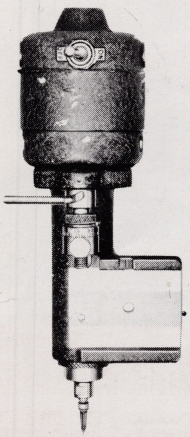
Diamond-Drag Marking Unit
Part No. 919-A with pneumatic pressure control. Requires also No. 918-A pneumatic unit.
Standard equipment with model UM-PC on page 6 of U-Series catalog.



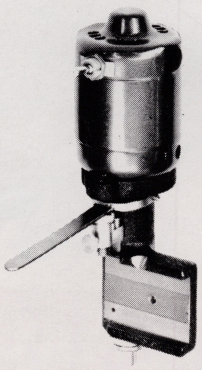
Acid Etching Unit
Part No. 130-261 for acid etching or scribing fine lines.
Standard equipment with model UA-M on page 7 of U-Series catalog.



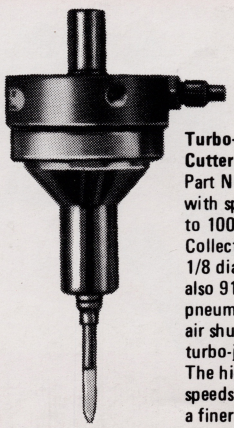
Electrical Marking Unit
Part No. 130-135A for electrical marking on steel. Requires also No. EM-60 Electro-Marker Unit.
Standard equipment with model UE-M on page 7 of U-Series catalog.



Rotary Engraving Spindle Unit with cam drop lever
Part No. 163-TC for taper shank cutters or Part No. 163-SC for straight shank cutters.
Standard equipment with model UE-2 on page 3 of U-Series catalog.



Rotary Engraving Spindle Unit with extension hand lever
Part No. 163-TL for taper shank cutters or Part No. 163-SL for straight shank cutters.
Standard equipment with model UE-2 on page 3 of U-Series catalog.



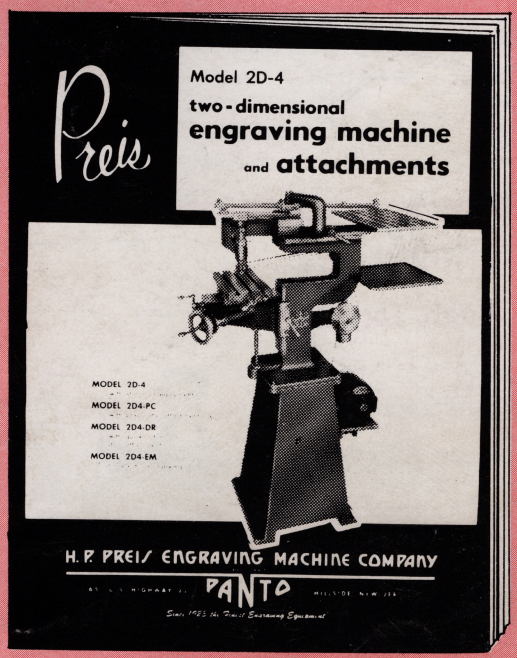
Turbo-Jet Cutter Spindle
Part No. 63-J with speeds of 30,000 to 100,000 R.P.M.; Collect capacity 3/32 & 1/8 diam., Requires also 918-A pneumatic unit and air shut off valve for turbo-jet.
The higher operating speeds offer a finer finish.

The actual parts required to convert from one marking method to another depends on the basic model selected or the model to be converted.

We suggest that you request a quotation covering the exact items required to convert your Panto-Engraver.

THE PREIS ENGRAVING MACHINE LINE

The catalogs illustrated on this page cover the complete line of Preis-Panto-Engravers and will be sent to you on letterhead request.



H. P. PREIS ENGRAVING MACHINE COMPANY

TRADEMARK

651 U.S. HIGHWAY 22 **PANTO** **HILLSIDE, N.J. 07205**

"Since 1923 the Finest Engraving Equipment"

Q-01-79-10M
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